

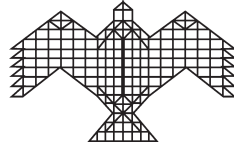


NATIONAL INSTITUTE OF ADVANCED STUDIES

Bengaluru, India

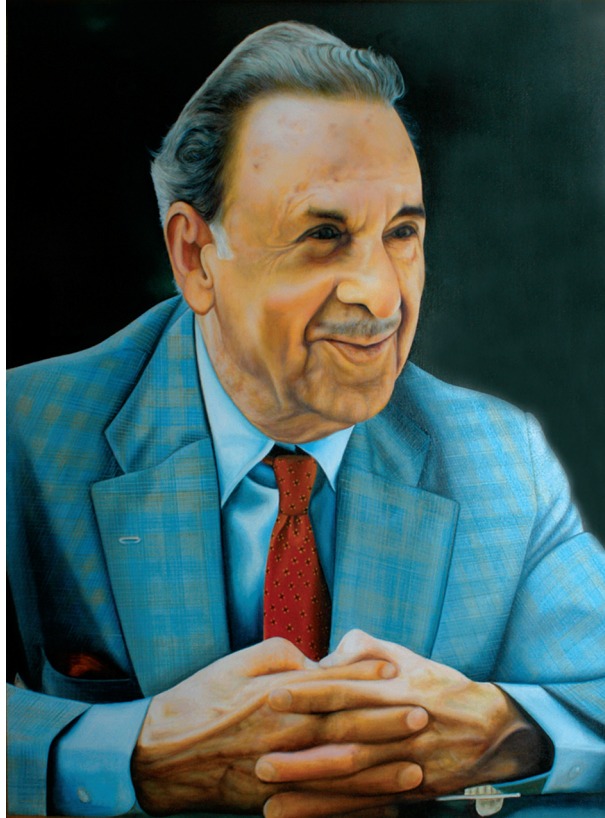
**ANNUAL REPORT
2020 – 2021**





NATIONAL INSTITUTE OF ADVANCED STUDIES
Bengaluru, India

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JRD Tata
Founding Chairman

The Vision and Mission of NIAS

To integrate the findings of scholarship in the natural and social sciences with technology and the arts through multi-disciplinary research on the complex issues that face Indian and global society.

To assist in the creation of new leadership with broad horizons in all sectors of society by disseminating the conclusions of such research through appropriate publications and courses as well as dialogues with leaders and the public.

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FROM DIRECTOR'S DESK



The year 2020-21 was marked by unprecedented pandemic due to corona virus and affected the entire world. It has been estimated that about 200 million people were affected and about 5 million people lost their lives. Research activities at the National Institute of Advanced Studies were hampered due to the covid situation. Work from home protocols and the use of internet-based platforms helped to a large extent to function and deliver results in all programmes.

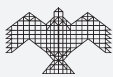
Prof Roddam Narsimha, Emeritus Professor and Former Director of NIAS, who had introduced very novel and innovative programmes such as 'History of Ideas', 'Dialogues across Disciplines' and initiated bilateral interaction between NIAS and US Committee on International Security and Arms Control (CISAC), passed away. He was a legend in the field of fluid dynamics and we will miss his wisdom and sage advice. We shall cherish his memory forever.

NIAS undertook many research studies and outreach activities related to COVID-19. Some of them were:

- The efficacy of Novel Causal Discovery Algorithm to capture causal information exchange between SARS-CoV-2 sequence pair was demonstrated and can be used for contact-tracing, evolution of virulence, pathogenicity, etc.
- Brain-inspired Machine-learning Algorithm for automatic classification of SARS-CoV-2 genome sequences was developed.
- An adaptive, evaluative, and therapeutic Ayurvedic Framework with reference to Covid-19 was formulated.
- A study on psychological stress and anxiety arising out of uncertainty was initiated.
- A study on the impact of Covid-19 on science communication was carried out.
- Lecture Series on 'COVID-19 and Indian States' with respect to response readiness, mitigation abilities, social perceptions and role of media, was organised.

A project on 'Interdisciplinary Forays into Human-Environment Interactions: An integrative-research initiative in energy, ecology and non-linear modelling' was completed. An approach towards sustainable coal mining while addressing ecological and environmental issues was developed. Effects of suspended particles and pollutants on local environment and flora was investigated and a model was developed.

The impacts of land use changes and agricultural practices on human-primate conflict were investigated. The initiation and escalation of conflicts were understood, and mitigation strategies were recommended. A study on understanding the determinants of social decision-making in the mega fish Deccan Mahseer was undertaken for developing policies for their conservation. A model was developed to understand regime shift due to climate change in sardine and mackerel along the Indian coast.



The Consciousness Studies Programme undertook documentation related to indigenous psychiatric and psychological practices of healing and wellness traditions of tribal communities in Kerala. A novel causal discovery algorithm was proposed and is now being integrated into network causal activity – a scientific measure for levels of consciousness.

A project on authentication of bronzes of Karnataka was completed and a film on wootz and bell-metal was produced. Architectural drawings for a rock-cut temple in Thal, Kumaon Himalaya were prepared for the first time since its discovery. A new methodology was developed to integrate remote sensing data with historical records to document evolution of landscapes and generate new hypotheses about history.

A project to understand the role inequality plays in transformation of India was undertaken. Five areas – autonomous adaptation to climate change, the left behind in rural transformation, inequality and technological transformation, age and inequality and human development – were identified for further investigations.

A study of changes in land use, property relations, livelihoods, and urban ecologies and their impact on urban growth and circulation of financial capital in real estate sector in Bengaluru and Jakarta was completed.

The Education program undertook a project to understand linkages between education, skill development and employment while specifically addressing issues of school dropouts. A study to understand status of education of sustainability in schools was completed and modules were developed.

The International Strategic and Security Studies programme completed a study related to hypersonic glide vehicles, hypersonic cruise missiles and hypersonic avionics systems and provided inputs to the Defense Research and Development Organisation (DRDO). Track-II dialogue on Himalayan and Indo-Pacific situations, nuclear safety and security with the U. S. Committee on International Security and Arms Control (CISAC) led to very useful recommendations.

NIAS has been hosting BRICS Young Scientists Forum to provide a platform to network and address global societal issues. *Conflict Weekly*, published every Wednesday, provides updates and analyses of potential and current conflict areas and on-going peace processes across the world. A daily brief on contemporary developments on social, economic and security issues in Pakistan was issued regularly to 1900 subscribers.

Various policy briefs based on the research outcome of projects were issued. They are: A Strategy for Migrant Workers, Farmers' Suicides in India, Natural Resource, Conflict and People's Movement: A Strategy for Resolution, Urban Migration, Skilling and Employment in the New Service Economy, Ashram Schools: Challenges and Future Directions, Transition Plan for Thermal Power Plants and Satellite Remote Sensing Data Policy: Benefits of Free and Open data. Many of the recommendations have found their way into government policies.

This year only three online training programmes on 'Social Responsibility of Scientists: Pathways and Outcomes, Science and Technology: Global Developments and Perspectives, and Emerging Fields in Defence Technologies and Challenges, were organised.

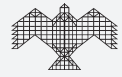
The Doctoral Programme was conducted mostly virtually. The entire admission process was conducted online. Out of 247 applicants, 15 were selected for PhD programme. 11 students were awarded PhD degree and 61 students are pursuing their studies.

K Subrahmanyam and Baldev Raj Memorial lectures were conducted online. Public lectures, Wednesday discussions, Literary, Arts and Heritage Forum talks, were organized online as well as offline depending upon situation.

The faculty was very productive and contributed to 8 books, 3 edited volumes, 78 peer-reviewed research papers and 19 book chapters, during this year.

It is expected that many initiatives undertaken such as 'Digital Humanities' and 'Sustainability' will fructify as major programmes in the near future.

Shailesh Nayak
Director, NIAS



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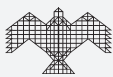
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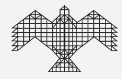
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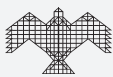
ACKNOWLEDGEMENTS

The National Institute of Advanced Studies (NIAS) acknowledges its gratitude to its funding agencies, organisations, institutes and the people for their support in various forms to conduct the doctoral programme, its research activities, and organise training programmes, meetings, workshops, seminars and symposia successfully.

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Sir Dorabji Tata Trust, Mumbai
Tata Education and Development Trust, Mumbai
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Tata Social Welfare Trust, Mumbai
TCS Foundation, Mumbai
Tata Consultancy Services Limited, Mumbai
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Department of Space, Government of India
Department of Atomic Energy, Government of India
Defence Research and Development Organisation, Government of India
Ministry of Earth Sciences, New Delhi
Office of the Principal Scientific Advisor to the Government of India
Science and Engineering Research Board, New Delhi
Indian Council of Social Science Research, New Delhi
Indian Council of Philosophical Research, New Delhi
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The Indian Council of Historical Research, India
Government of Karnataka, Bengaluru
Reserve Bank of India, Mumbai
Mr TV Mohandas Pai, Bengaluru
Sundaram Finance Limited, Chennai
Open Source Pharma Foundation, Bengaluru
Shri Brihad Bharatiya Samaj, Mumbai
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University of Exeter, UK
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The Leakey Foundation, San Francisco, USA
Humane Society International, Hyderabad
Regional Centre for Strategic Studies, Colombo, Sri Lanka
Texas A&M University, Texas
Rufford Foundation, UK
The Luigi and Laura Dallapiccola Foundation, UK
Konrad-Adenauer-Stiftung e.V. (KAS), Germany

NIAS looks forward to receiving continued support from our well-wishers, funding agencies and all others towards actualising our research and academic mandate.



OBITUARY



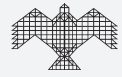
Prof Roddam Narasimha, Professor Emeritus, IAS passed away on December 14, 2020.

Prof Narasimha served as the Director of IAS during 1997-2004, a post that he took over from Dr Raja Ramanna, our founding Director. A brilliant scientist and renowned academician, Prof Narasimha commanded admiration and respect amongst his peers not only for the breadth and depth of his scholarship, but also for his pleasant demeanour, gentle courtesies and dedication to see through every endeavour that he was engaged in.

Born in Bengaluru on July 20, 1933, Prof Narasimha's early education was completed in Acharya Pathashala and University Visvesvaraya College of Engineering, Bengaluru while his PhD was obtained from California Institute of Technology, USA in 1961. He joined the Department of Aerospace Engineering at the Indian Institute of Science in 1962 and later founded the Centre of Atmospheric Sciences there. He served as the Director of the National Aerospace Laboratories from 1984 to 1993. His research centred around Aerospace Fluid Dynamics. He served three terms on the National Security Council and was a Fellow of the Royal Society. He was also the DST Year-of-Science Chair Professor at JNCASR, Bengaluru and concurrently held the Pratt and Whitney Chair in Science and Engineering at the University of Hyderabad. Prof Narasimha received many honours and awards during his lifetime, including the Padma Vibhushan.

Prof Narasimha, a passionate scientist throughout his life, was also interested in the history and philosophy of science. His interest in classical Indic studies resulted in three monumental works – *Verses for the Brave: Selections from the Yōga-Vāsistha* (2000), *Encyclopaedia of Classical Indian Sciences: Natural Science, Technology and Medicine* (2007), and *Nature and Culture* (2011). In *Verses for the Brave*, his detailed introduction and translation of 153 verses from an extraordinary Sanskrit work known as *Yōga-Vāsistha* has received wide acclaim. Prof Narasimha's fascination with the IAS logo took him to an ancient Sanskrit work called *Sulbasūtrās* to which the falcon shaped logo owes its origin. His knowledge of Sanskrit language and his deep interest in the history of science resulted in a seminal essay on the topic, clarifying its significance in the context of the IAS mission. Prof Narasimha's 1999 *Nature* essay *Rocketing from the Galaxy Bazaar* explored the less-known history of rocket-making and its use in the late 18th century, while his delightful 2001 *Nature* commentary *Sines in Terse Verse* described the marvel of representing mathematics in terse verse which was the ancient Indian practice of recording large numbers in order to be able to memorize them.

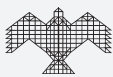
In IAS, Prof Narasimha's deep interest in other disciplines, led to the initiation of several eminent academic ventures. Along with Prof RL Kapur, he launched a monthly



seminar series on the *History of Ideas* in which several distinguished scholars from different disciplines delivered lectures on topics such as *Idea of an atom, Idea of God, What is space, What is a gene, Idea of evolution, Idea of seeing* etc. He also co-edited *Dialogues across Disciplines*, a collection of memorable lectures delivered at NIAS and brought out on the occasion of the Silver Jubilee year of NIAS in 2012. Prof Narasimha was instrumental in organising a first-of-its-kind dialogue between Indian experts and members of U.S. Committee on International Security and Arms Control (CISAC), a standing Committee of the US National Academy of Sciences at NIAS in May 1999. The NIAS-CISAC bilateral dialogues have continued periodically since then and have resulted in a better recognition of the overall concerns regarding nuclear policy issues between India and the United States.

Sadly, NIAS has lost three of its guiding lights in the recent past – Prof BV Sreekantan, Prof S Settar and Prof Roddam Narasimha. Their unswerving commitment to research and dedication to their work until the very end will serve as our pride and encouragement to persevere in our duties for years to come.

by Ms Hamsa Kalyani



EXECUTIVE SUMMARY

The activities of NIAS are organised under four schools: Conflict and Security Studies, Humanities, Natural Sciences and Engineering, and Social Sciences. The following is a summary of the major outcomes and achievements of the various programmes and initiatives of the four schools at NIAS.

1. CONFLICT RESOLUTION AND PEACE RESEARCH

The Conflict Resolution and Peace Research Programme has two primary pillars of research – conflict resolution, and peace research. As a part of its research agenda, the Programme aims to conceptualize the idea of conflict and peace, and the role of civil society. The Programme conducts research on radicalization, peace processes and maritime conflicts. It also has a special focus on Pakistan, Northeast and Leftwing extremism. Programme faculty teach courses dedicated to the above themes. *Conflict Weekly* is one of the regular publications from the Programme.

2. SCIENCE DIPLOMACY

The Science Diplomacy Programme is the youngest Programme within the School of Conflict and Security Studies at the Institute. With an objective to focus on “Science for Diplomacy” and “Diplomacy for Science”, the Programme aims to work as a bridge between the two. Currently, the primary research themes of the Programme include healthcare, space, cyber, artificial intelligence, maritime, climate change and disaster management. During 2020-21, the Programme began a one of its kind academic course on Science Diplomacy.

3. INTERNATIONAL STRATEGIC AND SECURITY STUDIES

The International Strategic and Security Studies Programme specialises in studying contemporary issues of national importance from a science and technology perspective and relates them to the relevant geopolitical, organisational and structural aspects. To address issues in a holistic way, the Programme has experts with backgrounds in space studies, atomic energy, aeronautics, avionics, international relations and political science. The Programme has initiated research studies on several key topics such as deployment of drones in national airspace and policy and regulatory mechanisms for the same, development and application of software and analysis tools for independent assessment of security issues, application of geographic information system analyses in space studies, maritime domain and defence and space situational awareness requirements for countries.

4. CONSCIOUSNESS STUDIES

The research, outreach and documentation completed by the Consciousness Studies Programme in 2020-21 pertained largely to projects funded by the Tata Trusts, DST-CSRI, and DST-SATYAM. The interdisciplinary nature of the research carried out by Programme members facilitated the development of frameworks that go beyond the mainstream and concepts that were original yet addressed the marginal. For instance, the studies on causality and indigenous notions of health highlight the importance of considering a discipline-centric, yet multifarious set of data inputs. The Programme organised, with the hashtag ‘#Care Consciously! Defeat Corona’, a number of online programmes such as short academic courses, workshops, Friday lectures, poetry sessions, and lectures series, and through all these created a bridge with the public at large towards connecting life, living and health in the pandemic times. The programmes were attended by students, professionals and the larger public from across the world, and more than 300 institutions connected with the programme on a regular basis.

5. HERITAGE, SCIENCE AND SOCIETY

Despite the many challenges posed by the pandemic, the Heritage, Science and Society Programme made critical progress in their research work in 2020-21. Studies were undertaken on the material culture of the Nilgiris and ancient Nilgiri metallurgy and the documentation and dating of a rock-cut temple and verification of a megalithic site in Kumaon Himalayas. Geospatial analysis for cultural heritage studies and



on hydrological analysis in Badami to understand how natural resources were used for conserving water in historical times were conducted. A study on understanding pottery traditions through experiments was also undertaken.

6. ANIMAL BEHAVIOUR AND COGNITION

Over the course of the year 2020-21, Animal Behaviour and Cognition Programme members worked on various projects funded by national (DST, ISRO) and international (ERC) organisations. Major focus was to investigate drivers of human-primate conflicts, impact of land use changes on human primate co-existence, object recognition and tool manufacture on wild bonnet macaques and behavioural ecology of lion-tailed macaques. Studies related to the urban ecologies of wild and feral species in Delhi and Guwahati, interactions between Asian elephants and human communities in southern India, the determinants of social decision making in a megafish Deccan Mahseer, people's perceptions of endangered fishes and costs of human food choices were also carried out.

7. COMPLEX SYSTEMS

The Complex Systems Programme focuses on interdisciplinary, frontier research based on principles of nonlinear dynamics. A highlight of work achieved over the past year includes construction of a dynamical model for animal movement in a resource abundant human modified landscape. This was validated with radio telemetry data of hornbills – simulations of hornbill flight ranges agreed very well with field observations. Another contribution of the Programme was an exhaustive study of the dynamical regimes of a system comprising two neurons with different excitability mechanisms coupled together. A novel bursting mechanism was found. In another research study, the dynamics of a pendulum with length varying non-uniformly in time was studied in terms of the action variable which was found to not be an adiabatic invariant. Other work done include modelling growth of atmospheric pollutants in coal-mining regions and study of climate change impact on marine ecosystems.

8. ENERGY AND ENVIRONMENT

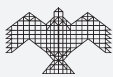
Faculty of the Energy and Environment Programme (EEP) teach and carry out policy-focussed research in energy, environment, and climate change. Despite the pandemic, EEP faculty and researchers published eleven papers in peer-reviewed journals, five papers in conference proceedings, one book chapter, and eight articles in national newspapers/magazines and delivered invited talks in other institutions. EEP faculty prepared a NIAS Policy Brief on a transition plan for the power sector, and conducted two stakeholder consultation workshops involving participants from the government and industry as well as experts from academia, civil society. While NIAS recommendations related to thermal power plants are under implementation by the Government of India, the government also seeks periodic inputs from EEP faculty on matters related to energy and climate change policies. In the coming year, EEP faculty will continue to focus on emerging research areas, such as affordable energy security, water security, sustainable cities, and urban emissions.

9. SCIENCE COMMUNICATION

Over the course of the previous academic year, the Science Communication Programme explored and made use of newer media platforms to interact with the larger public as part of a plan to reach people more effectively. Faculty and researchers focussed on updating the NIAS-Com website, improving the use of social media and visual media for science communication, communicating science through ToonLogs, and combining the strength of Cartoons and Blogs. Studies on understanding sense making of warning messages broadcasted during cyclones and impact of Covid on science and communication were carried out.

10. EDUCATION

The activities of the Education Programme are carried out through three nodal initiatives: Platform for Education Policy, Curriculum Exchange Network, and Research in Critical Areas of Education. In the year 2020-21 Programme faculty were involved in developing research papers, developing proposals and supporting students' doctoral research. The Programme also conducted a weekly webinar series, Education after COVID. Some of the research papers that were under preparation include: the need for a paradigm shift for the concept of gifted with a focus on marginalised communities; mapping work/labour among scientists



and engineers; education and sustainability; urban dislocations and the politics of educational access in Bengaluru; and representations of ethnic minorities in Indian textbooks.

11. INEQUALITY AND HUMAN DEVELOPMENT

Faculty of the Inequality and Human Development Programme spent 2020-21 building on the foundations it had laid in earlier years. The policy implications of two project reports on demand for non-farm jobs and farmers' suicides, were developed into policy briefs, and there is reason to believe the policy prescriptions for migrant workers found their way into the official response to the Covid crisis. Based on the results of the projects, faculty worked on a book on inequality, *Dynamics of Difference: Inequality and India's Rural Transformation*, which is forthcoming from Routledge. The Programme also received a substantial second phase of support from TCS which is being used to extend the analysis of inequality in five new directions: the relationship between inequality and human development; the effects of, and response to, climate change; the dynamics of those left behind in the process of rural transformation; the changing role of mobility and communication technologies; and the dynamics of age and inequality.

12. URBAN AND MOBILITY STUDIES

Over the course of the year 2020-21, faculty of the Urban and Mobility Studies Programme worked on the analysis, writing-up and dissemination of the findings of three recently completed research projects. A NIAS Policy Brief, based on the project *India's Changing Cityscapes* (in collaboration with ISEC, Bengaluru) highlighted the dissonances and gaps in the current skilling paradigm in the country. The *Speculative Urbanism* project documented diverse processes of displacement and dispossession amongst low-income urban and rural communities induced by Bengaluru's 'world-city' urban development as well as the transformation of real estate markets by finance capital. The APU funded project, *'World-City' Planning in Andhra Pradesh* was completed and the final report submitted to Azim Premji Foundation. Additionally, a new project, *Labour Supply Chains in the Construction Industry* received funding from Azim Premji University and will begin in mid-2021.

TRAINING PROGRAMMES

Online Training Programme on Emerging Fields in Defence Technologies and Challenges organised for BEL Academy of Excellence, and

NIAS-DST Online Training Programme on: (i) Social Responsibility of Scientists: Pathways and Outcomes for Women Scientists (ii) Science and Technology: Global Developments and Perspectives, were conducted.

DOCTORAL PROGRAMME

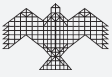
NIAS is recognised as a centre for research by Manipal Academy of Higher Education (MAHE), Mysore University and the University of Trans-disciplinary Health Sciences and Technology (TDU) from which students get their PhD degrees. At present there are sixty-one students pursuing interdisciplinary research in natural and engineering sciences, social sciences, humanities and arts.

NIAS has initiated various means of outreach for extending news and updates of the academic achievements of faculty members. This year most of the lectures delivered by NIAS faculty and the public programmes organised by NIAS were conducted using the online mode.

SCHOOL OF CONFLICT AND SECURITY STUDIES

Programmes

- Conflict Resolution and Peace Research
- Science Diplomacy
- International Strategic and Security Studies



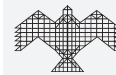
SCHOOL OF CONFLICT AND SECURITY STUDIES

The School of Conflict and Security Studies, has three programmes - Conflict Resolution and Peace Research Programme (CRPRP), International Strategic and Security Studies Programme (ISSSP), and the Science Diplomacy Programme (SDP). The three programmes of the School complement each other in terms of research focus and activities. While ISSSP looks at larger security issues, CRPRP looks at conflict resolution and peace research, and SDP adds value by merging S&T with diplomacy and global politics. The School works closely with various departments of the government, from Defence Research and Development Organisation (DRDO) to Department of Science and Technology (DST). The School also maintains links with several international institutions and scholars.

Despite the COVID situation during 2020, the School organised numerous events, lectures and workshops. They include the following: Dialogue with CISAC, K Subrahmanyam lecture; workshops on COVID, gender, protests, swaraj; and events and lectures on global events including the Middle East, Sri Lanka, Pakistan, Japan etc. School faculty also offered several courses during the year, varying from a foundation course on conflict security, and introduction to social conflict, to maritime security concepts, securitization of maritime, peace research, conflict resolution, and qualitative methods in social science research etc.

Programmes

- **Conflict Resolution and Peace Research**
- **Science Diplomacy**
- **International Strategic and Security Studies**



CONFLICT RESOLUTION AND PEACE RESEARCH PROGRAMME

Introduction

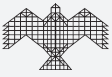
The Conflict Resolution and Peace Research Programme (CRPR) was created in March 2020 within the School of Conflict and Security Studies. The Conflict Resolution Programme that previously existed within the School was merged with the International Peace Research Initiative (IPRI) to form the new programme – CRPR. The Programme has two primary pillars – Conflict Resolution and Peace Research. On Conflict Resolution, the programme attempts to pursue evidence-based research on individual conflicts and also aims at a larger conceptualisation of conflict. It studies individual conflicts in depth with the twin purpose of identifying elements that can be used to resolve them in achieving peace, as well as to further develop an overall understanding of conflicts and their resolution. On Peace Research, the Programme aims at studying ‘peace’ as a political process, with an objective to provide policy inputs to the state and the society. In particular, the Programme aims to research ‘peace processes’ across the world, their successes and failures and to understand why these processes do not always end up in peace. In terms of regions in studying conflicts and peace, the Programme is particularly interested in India’s Northeast region, Left-wing affected areas, J&K, Sri Lanka, Myanmar, Pakistan and Afghanistan.

The Programme also believes in capacity building and dissemination of knowledge about conflicts and peace processes with a larger objective to influence both popular perceptions and policies aimed at conflict resolution and achieving peace. A series of research backgrounders on topics ranging from conflicts in north-eastern India to the Maoist conflicts in India have been published offering substantial and critical knowledge on each of these conflicts. The Programme thus seeks to intervene in the knowledge about conflict and peace research in three major ways: research, teaching, and policy interventions.

Research Activities

Over the past year, the Programme was involved in the following research studies: People’s Movement in Odisha; S&T in Conflict Studies and Maritime Disputes and Conflicts. S&T in conflict studies focuses on the impacts of S&T components like GIS, ITeS, satellite technologies, equipment and instruments of conflict, and communication technologies on the germination, spread, and diffusion of conflict. Maritime disputes and conflicts analyses old and new conflicts in maritime contexts to understand how geography, technology, law, and geopolitics play a decisive role in the protraction and settlements of such disputes. Apart from these studies, an important Programme activity is the publication of the *Conflict Weekly*. The *Conflict Weekly* is an academic endeavour to track, interpret and analyse conflicts and peace processes across the world with a special emphasis on South Asia. *Conflict Weekly* brings to the research community every Wednesday a weekly alert of events, updates, and analyses of potential and ongoing peace processes and conflicts across the world. In 2020, the *Conflict Weekly* initiative was supported by the Global Partnership for the Prevention of Armed Conflict (GPPAC). From April 2021, IPRI partnered with the Konrad-Adenauer-Stiftung (KAS), and the *Conflict Weekly* is currently published as a joint initiative by IPRI and (KAS) India Office. A total of 52 issues of the *Conflict Weekly* were brought out in 2020-21.

The Programme also conducted several workshops that resulted in a set of commentaries on the themes of the workshops. In February 2021, scholars from NIAS participated in a series of presentations on ‘Abortions, Legislations and Gender Protests’ as part of the Global Politics, Young Voices Workshop. The presentations included case studies of Honduras, Argentina, Poland and Thailand by young researchers that identified three socio-political trends across geographical boundaries and these were later published as IPRI commentaries. Marking the publication of the 50th edition of the *Conflict Weekly*, IPRI organised a young scholars’ workshop to analyse the Top Conflicts in 2020. The workshop’s outcome included a set of nine IPRI commentaries on different conflicts from different regions in the world. ‘Women, Peace and Twenty Years of UNSC 1325’ was another IPRI special focus series. This was an attempt to look at the various challenges faced by women peace builders during the COVID-19 pandemic and record the limitations to women empowerment in the peace processes in South Asia. Again, this resulted in a set of five IPRI commentaries. A workshop on Gender and Peace Building



During a Pandemic resulted in a set of five short briefs that were published in the IPRI bulletin. The IPRI Series 'COVID-19 and Indian States', undertaken in collaboration with the Konrad-Adenauer-Stiftung (KAS), brought out how India is addressing the pandemic, particularly with respect to response readiness, mitigation abilities, societal perception and role of media in the different federal states in the country. IPRI also conducted a workshop to mark one year of the Easter Sunday attack in Colombo which left more than 250 dead on 21 April 2019. The workshop looked at the lessons learned, the road ahead, and issues that need to be addressed, and produced a set of 8 commentaries on the debate.



Prof SD Muni, Professor Emeritus, The Institute for Defence Studies and Analyses with IPRI Young Scholars.

Programme faculty worked on two book projects: *Gandhi in Twenty-first Century: Ideas and Relevance* and *Varying Dimensions of India's National Security: Emerging Perspectives*. Both the books have been accepted by Springer Nature for publication. Programme faculty also conducted three academic courses: (i) Introduction to Social Conflict for NIAS doctoral students during August-December 2020, (ii) Qualitative Methods in Social Science Research for NIAS doctoral students during August-December 2020, and (iii) NIAS Online Certificate Course on Contemporary Peace Processes, Thinkers and Theories.

Outreach

The Programme organised the following academic events:

Ten Years of Civil War in Syria, by Dr Stanly Johny, IPRI Lectures on Contemporary Conflicts, March 31, 2021.

Fukushima: Ten Years Later, IPRI Young Scholars' Debate on Fukushima Disaster, March 27, 2021.

Fukushima: Ten Years Later, IPRI Experts' Panel on Nuclear Energy and Security, March 27, 2021

Causes, Courses and Consequences of Coup, IPRI Young Scholars Workshop, NIAS-IPRI Course on Contemporary Peace Processes, Thinkers and Theories, February 27, 2021.

The War in Yemen: Domestic Issues, External Actors and Regional Stability, IPRI Young Scholars Workshop, February 15, 2021.

Gender Protests against the Abortion Laws in Honduras, Argentina, Poland and Thailand, IPRI Young Scholars Workshop, February 8, 2021.

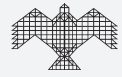
Hot on the Conflict Trails in 2020: Crises | Forecasts | Watchlists, organised by IPRI Young Scholars Workshop, December 24, 2020.

Discussion on *KC Bhattacharjee's Swaraj in Ideas*, NIAS in collaboration with India Thought Collective, September 28, 2020.

Sri Lanka Elections 2020 – A Curtain Raiser: Issues, Actors, and Challenges, IPRI in collaboration with Indian Council of World Affairs (ICWA), August 13, 2020.

J&K Today: One year After the Removal of Article 370, by Prof Amitabh Matto, IPRI Peace Lectures, August 8, 2020.

Black Lives Matter Protests, IPRI Young Scholars Workshop, June 27, 2020.



India – China Border Conflict, IPRI Young Scholars Workshop, June 6, 2020.

Hong Kong Protests: Five Factors in Perspective, IPRI Young Scholars Workshop, May 30, 2020.

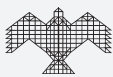
Sri Lanka: One Year after the Easter Sunday Attacks, IPRI Young Scholars Workshop, May 9, 2020.

D Suba Chandran, *Professor & Head*

Anshuman Behera, *Associate Professor*

Amit Mukherjee, *Assistant Professor*

Doctoral Students: Aparupa Bhattacharjee, Hrudaya Chandana, Zarnain Manzoor, Surya Shankar Sen



SCIENCE DIPLOMACY PROGRAMME

Introduction

The Science Diplomacy Programme grew out of a science diplomacy project in the School of Conflict and Security Studies and is now a full-fledged programme at NIAS. The Programme has four major components – research, publications, policy interventions, and dialogues/networks. All four components feed into each other, making the Programme holistic, comprehensive, and multi-disciplinary. The primary research focus of the Programme is on the Arctic, Himalayas, Blue Economy, Outer Space, and Affordable Healthcare.

In terms of dialogues and networks, the Programme functions as the Secretariat for the BRICS-Young Scientists Forum (BRICS-YSF), supported by the Department of Science and Technology, Government of India. The main goal of BRICS YSF is to provide a common platform, for young budding scientists across BRICS countries, to help them, to connect and network in order to resolve common societal challenges with innovative research. The Programme is also looking towards creating similar networks on the BIMSTEC and SCO.

Research Activities

During 2020-21, travel constraints due to COVID-19 precluded field research. Hence the Programme conducted a lecture series on different aspects of science, technological innovations and their interconnections with security issues. The following online talks and discussions were conducted under the Science Diplomacy Programme Lecture Series.

Science and Diplomacy in India, Discussion with Dr RK Sharma, June 23, 2020: Dr Sharma gave an overall informative lecture on the mechanisms of S&T departments in India, connecting it with history, administration, and the role of multi-disciplinary approach in building relations with countries across the globe. He talked about the traditional branches of science and its principles, linking it with the changing focus of modern sciences on innovation and technological development.

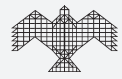
75 Years after Hiroshima: State of the Nuclear World Order and the Possibility of a Nuclear Free World, Discussion with Ms Manpreet Sethi, August 18, 2020: Ms Manpreet Sethi is a Distinguished Fellow at the Centre for Air Power Studies (CAPS), New Delhi where she heads the project on nuclear security. She talked about the Nuclear World Order and the possibility of a Nuclear Free World. She is an expert in nuclear energy, strategy, non-proliferation, disarmament, arms and export controls and BMD.

Iran Nuclear Enrichment, Discussion by Dr N Ramamoorthy, January 10, 2021: The course organised a class discussion with Dr Ramamoorthy, where he talked about the Iran Nuclear Enrichment programme followed by brief set of Q&A. The Q&A focus on the norms of NPT and JCPOA agreement and how the country is violating it, the uranium enrichment programme and the significance of Fordow nuclear facility.

Challenges of Cyber Threat to Aerospace, Defense and Infrastructure Sectors, Lecture by Prof PM Soundar Rajan, February 25, 2021: The discussion focussed on cyber security and cyber-attack in contemporary times. Prof Soundar Rajan described the impact of increasing cyber attacks in recent years, their impact on international relations and how technologies in developing countries face a higher risk of such attacks.

Role of Space in Diplomacy, Discussion with Prof PS Goel, February 26, 2021: Prof Goel gave an overview of space as a technological driver and how space studies play a key role in the national security of the nation. He also talked about the four dimensions of national security.

International Solar Alliance, Discussion with Dr Upendra Tripathy, March 26, 2021: Dr Upendra Tripathy, Director General, International Solar Alliance gave a brief background on the establishment of ISA and how India is looking forward in developing the platform for global commons.

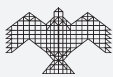


Apart from the lecture series, the Programme also conducted a course on Science Diplomacy. The course looked at five areas: Idea of Science Diplomacy; History of Science Diplomacy; Science Diplomacy Today; Science Diplomacy Institutions and Initiatives; India and Science Diplomacy.

D Suba Chandran, *Professor & Head*
Doctoral Students: Harini Madhusudan, Rashmi Ramesh, Akriti Sharma, Lokendra Sharma



Programme Workshop on Governance in the Arctic.



INTERNATIONAL STRATEGIC AND SECURITY STUDIES PROGRAMME

Introduction

The primary objective of International Strategic and Security Studies Programme (ISSSP) is to study the political, military, technological, economic and security developments in India's immediate and extended neighbourhood, and the world in general. This in turn involves examining prospects and the policy challenges, studying the impact of technology on security, and providing policy inputs on relevant issues through research, discussion meetings, workshops and conferences. Research proposals on these lines were generated after gauging the interest of likely sponsors. Studies in ISSSP have been mainly sponsored by the defence and security agencies in the country. In addition, members of the programme have taken up research in their own areas of interest and domain expertise.

Research Activities

Over the course of the last year, Programme members were primarily involved in completing a DRDO-supported study on Advanced Weapon Systems. The report on Advanced Weapon Systems serves as a useful reference manual on six categories of weapons. The study also highlighted the requirement for effective space situational awareness and the need for a space force or space command for the country to ensure safety and security of space resources. A new study on 'Critical Weapon System Technologies, Sensors and Platforms for National Security' was initiated for DRDO in December 2020. The study covers several weapon systems and their critical enabling technologies. In phase-1 of the project, studies have been taken up on hypersonic weapons, battle tanks and submarines.

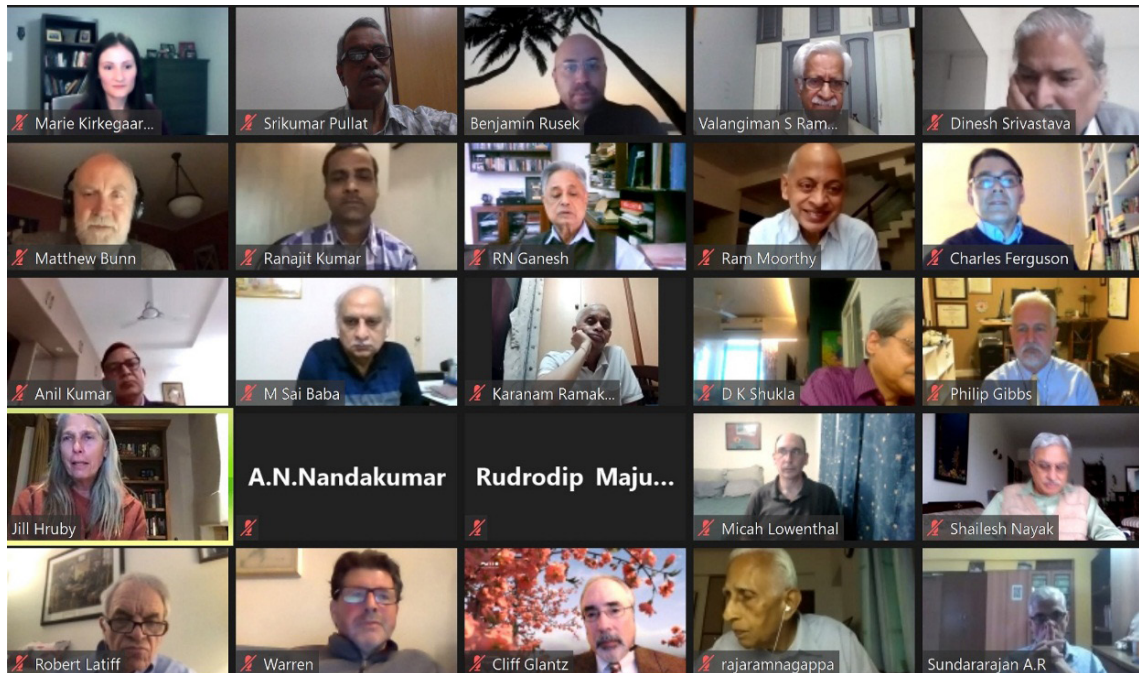
A project on Cyber Security Vulnerabilities has been undertaken. Major components of the project include hypersonic glide vehicles (HGV), hypersonic cruise missiles (HCM), hypersonic avionics systems, countering hypersonic missile threats and advance battle tank vetronics systems. Documentation updates and training to the user agencies of the missile trajectory analysis software Quo Vadis and the space situational awareness software Veni, Vidi, Vici were provided. The emerging scenario of deployment of Unmanned Aerial Systems, popularly known as UAVs/Drones, in India's National Air Space (NAS) was undertaken. A study on submarines Advanced Weapon Systems was completed and the report was submitted.

Research studies mainly in the areas Indo-Pacific region and India's Neighbourhood, and India's Borderlands and Non-Traditional Challenges were conducted. Studies on Satellite Imagery Analysis of China-Pakistan Economic Corridor in Makran Coast and on Japan – South Korean Trade War were completed. Reports on maritime narcotics trafficking in the Western Indian Ocean and on Underwater Domain Awareness (UDA) were prepared. Studies on geo-computational modeling and simulation methods in strategic studies; applications for investigating environmental outbreaks; transboundary geographical phenomena and impact on India, assessment of spent nuclear waste (SNF) production and transportation processes in India's neighbourhood were carried out.

In view of the pandemic situation, the Track-2 dialogue with the Committee on International Security and Arms Control (CISAC) of the US National Academy of Sciences, addressing Strategic Threats of the 21st Century, was conducted through the virtual medium. While the first edition of the virtual dialogue held in November 2020 covered the Himalayan and Indo-Pacific situations, the second edition held in January 2021 focused on nuclear safety and security during prolonged pandemic conditions and the next decade of the global centre for nuclear energy partnership (GCNEP). Eminent experts from India and USA participated in the events.

Outreach

An ISSSP Lecture Series on International Security to discuss contemporary global security issues was initiated. The lecture series aims to bring together, on a monthly basis, a wide range of participants from the strategic and academic communities with a mix of senior and young scholars. The inaugural lecture in February 2021 by Amb PS Raghavan was followed by two more on Europe and International Security (by Prof Ummu Salma Bava) and China and International Security (by Prof Srikanth Kondapalli).



NIAS-CISAC Virtual Dialogue on "India-US Cooperation on Global Security - Strategic Security Threats of 21st Century", January 22, 2021.

A Daily Evening Brief on Pakistan on contemporary developments within Pakistan, has been issued on a regular basis. It contains focused notes on issues of the day in Pakistan as well as short briefs on social, economic and security issues. The Evening Brief is sent at 1900 hours every day, as an email alert to a large audience.

An online workshop on Emerging Fields in Defence Technologies and Challenges in October 2020 for BEL Academy of Excellence, Bengaluru was conducted.

Srikumar Pullat, *Visiting Professor & Head*

D Suba Chandran, *Professor*

S Chandrashekar, *JRD Tata Chair Visiting Professor*

Rajaram Nagappa, *Honorary Visiting Professor*

PM Soundar Rajan, *Visiting Professor*

N Ramani, *Visiting Professor*

Lalitha Sundaresan, *Visiting Professor*

M Mayilvaganan, *Associate Professor*

Amit Mukherjee, *Assistant Professor*

Prakash Panneerselvam, *Assistant Professor*

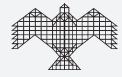
Doctoral Student: Sherin Ajjin Jose

Project Associates: Akhil Chandran, Anirudh Thimmaiah, Nikhita Matti, Surya Swaminathan, Hema Karnam

SCHOOL OF HUMANITIES

Programmes

- Consciousness Studies
- Heritage, Science and Society

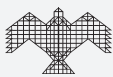


SCHOOL OF HUMANITIES

The School of Humanities is engaged in research in the broad areas of philosophy, psychology, literature, archaeology, history, mathematical modelling, fine arts, and culture. The two Programmes of the School focus specifically on cognitive science; philosophy of mind, language and mind, causality; brain-inspired artificial intelligence; archaeometallurgy and analysis of ancient metals; heritage, art history and bronzes of Karnataka, monument and stone architectural heritage, Iron Age-Early Historic south India, geospatial analysis for cultural heritage; origins and evolutionary trajectories of monument-building traditions in India; and cross cultural musical exchanges in colonial period. During the past academic year, while the programmes continued their research studies, a notable initiative was the Foundation Course offered on Humanities by the School, focusing on four themes: 'self and emotions', 'nature and culture', 'historical narratives' and 'time and causality', that are central to the disciplines of the School to provide interdisciplinary perspectives. Another significant outcome was a collaborative initiative with *Sahapedia*, for a joint programme to bring culture and digital humanities under one space. This programme, the NIAS Sahapedia Digital Humanities partnership, consists of members from the Schools of humanities and social sciences in NIAS and members from *Sahapedia*.

Programmes

- **Consciousness Studies**
- **Heritage, Science and Society**



CONSCIOUSNESS STUDIES PROGRAMME

Introduction

The Consciousness Studies Programme (CSP) focuses on the humanistic and health aspects of consciousness along with a critical approach to the empirical theorisation of the self in humans and animals. The Programme currently has groups working on human communication examining behavioural decision-making, communication and social cognition, information theory, conceptual mathematics, and scientific approaches to consciousness. The overall goal is to bring to the public and interested students and scholars the importance of health, aesthetic pleasure, and knowledge as a triune reality deeply interconnected with consciousness. In the year 20-21, Programme members were primarily involved with projects funded by DST CSRI, DST SATYAM, and the Tata Trusts. The Programme initiated novel outreach and in-house discussion fora on pertinent interdisciplinary issues connecting literature, psychology, data science, complexity studies and philosophy. Further, several online courses and events were organised apart from the four studies that were initiated in the context of the Covid-19 pandemic.

Research Activities

Causal Structures, *Vimarsa* and the *Pratyabhijñā*: A Comparative Research Study on Kashmir Saivism and Information Theory, funded by the Tata Education Trust. The major intent and goal of the project is to focus on the fundamental discussions pertaining to philosophical and psychological questions raised by the thinkers of Kashmir Saivism and attempt the contextualising of Information theory, consciousness studies and artificial intelligence, from the view point of analysing causal structures of thought, experiences and entities. Compression-complexity based measures of causality and their role in detection of temporal reversibility of processes was explored and applied to time series from diverse disciplines such as sunspot numbers, digits of the transcendental number π and heart inter-beat interval variability. Focused studies within the project include: (i) Parāsamvit and Pratyabhijñā: An Onto-Epistemic Enquiry in Kashmir Shaivism (ii) Investigations into Learning Algorithms in Intelligent Machines (iii) A Theoretical Study of Two Ethnic Performances – Tirayattam and Sarpamthullal; (iv) The Interface of Pratyabhijñā Philosophy, Rasa Aesthetics, and Kashmir Kāvya literature and (v) Metaphysical Status, Function and Ethics of Technological Artifacts .

Documentation and Study of Alternate and Indigenous Psychiatric and Psychological Practices of Healing and Wellness funded by the Tata Education Trust. The major intent and goal of the project is to document the indigenous healing and wellness traditions of Kerala, and understand the psychological and psychiatric implications of ethnomedical practices in indigenous communities and ritual healing methods. During the past year, several reports on the indigenous lives of tribal communities were completed. The focused studies within the project are: (i) The Secret of the Word and the Theatrics of Faith-Healing: Tracing the Language – Consciousness Nexus through Mantravada Narratives from Kerala (ii) Situating the Correlates of Wellbeing through an yurvedic Approach to the Concepts of Consciousness, Self and Life-purpose; (iii) An Anthropological Study on Health, Ethnomedicine and Indigenous Knowledge Systems among the Adiyani and Mavilan Tribal Communities of Kerala; (iv) Indigenous knowledge of healing among the tribes of Nilambur Valley.

Causality Testing in Cognitive Neuroscience with Applications to Measures of Consciousness, funded by DST CSRI. This study proposes a novel causal discovery algorithm that employs context-free grammars inferred through lossless compressors. This is being integrated into Network Causal Activity – a scientific measure for levels of consciousness.

A Study of Consciousness Measures and Synchrony between Brain and Cardiovascular Dynamics in Yoga Experience, funded by DST-SATYAM. This is an interinstitutional project between NIAS, Indian Institute of Science, and National Institute of Mental Health and Neurosciences. Network Causal Activity was applied with EEG measurements from Vipassana meditators (data obtained from NIMHANS) for three classes – novice, intermediate and advanced teachers. Qualitative questionnaires based on Patanjali Yoga Sutras and Bhagavad Gita were designed to capture the yoga experience. The acquisition of EEG and ECG measurements of yoga/



meditation practitioners is currently paused due to the pandemic situation, and will be resumed once the pandemic situation eases.

Four Studies in the Context of Covid-19 Pandemic

The Programme also initiated four studies on various aspects of Covid-19 pandemic during the academic year.

A Novel Causal Discovery Algorithm Based on Compression-Complexity Measures was proposed. Using 16,619 genome sequences from 19 countries, the efficacy of this algorithm to capture directed causal information exchange between SARS-CoV-2 sequence pairs was demonstrated. This presents novel opportunities for addressing key issues such as contact-tracing, motif discovery, evolution of virulence and pathogenicity in future applications.

Brain Inspired Machine Learning Algorithm for Automatic Classification of SARS-Cov-2 Genome Sequences. With just one training sample per class for 1000 random trials of training, the algorithm reports an average macro F1-score > 0.99 for the classification of SARS-CoV-2 from SARS-CoV-1 genome sequences.

To Create an Adaptive Evaluative and Therapeutic Ayurvedic Framework with Specific Reference to the Covid-19 Virus. This study aims to evolve an adaptive understanding and therapeutic framework for COVID-19 based on the elaborate guidelines mentioned in Ayurvedic texts. A literature review shows that epidemics, infectious diseases, their modes of transmission, respiratory diseases and their management have been elaborately described in texts of Ayurveda, demonstrating that Ayurveda does indeed possess the tools to combat a pandemic such as COVID-19.

The Post-covid World and the New Humanism: Intersections of wellness, philosophy and technology. This study examines the psychological stress and anxiety caused to millions of people as one of the worst outcomes of COVID-19 pandemic resulting from the uncertainty which destabilises sustainable and comfortable living and access to food, home, resources, and free movement. While few perhaps develop coping mechanisms and will withstand the long term ill effects of psychological distress, a substantial number of people are affected to a degree and manner that their lives are altered irreversibly.

Courses and Workshops

Recognising the importance of leadership and connecting communities initiatives during the COVID-19 Pandemic, CSP organised the following online short courses and workshops.

Knowing, Experiencing and Being: Methods, Applications and Philosophies inspired by Phenomenology, Collective Frameworks, and Reflective Capabilities, academic course, January-May 2020.

Facets of Artificial Intelligence, workshop, July 15 and 16, 2020.

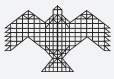
Nine Dimensions of the Lockdown Experience: The Psychology and Philosophy of the Self Seeking Freedom and Boundlessness in a Bounded and Limited World', Webinar series, May 20 to July 20, 2020.

Readings from Indian Aesthetics, academic course, August 17 to 20, 2020.

Phenomenology and Social Research, academic course, September to October 2020.

Quintessence of Being: Examining Existence and Experience, academic course, August to October, 2020.

Introduction to Western Classical Music, academic course, January to February, 2021.



School of Humanities Foundation Course, academic course, September – December, 2020. This focused on four themes: ‘self and emotions’, ‘nature and culture’, ‘historical narratives’ and ‘time and causality’.

Research Writing and Communication, academic course, February – May, 2021. The goal is to focus on different forms of research writing including research thesis, research proposals, and research papers that include literature review and methodology.

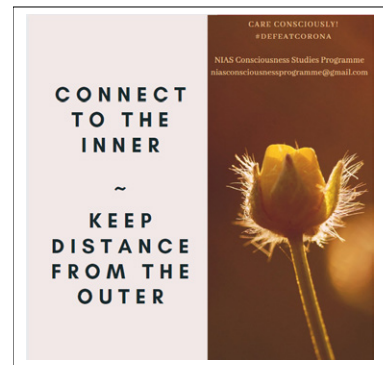
Philosophy, Self, and Consciousness: Exploring the Context of Experience, academic course, February – June 2021. This focuses on the interdisciplinary engagements and the conceptual frameworks required by a student to study the constitution of human experience, and the place of self and consciousness.

Outreach

Care Consciously! #Defeatcorona:

Using the tagline “Care Consciously”, and the Hashtag #Defeat Corona, CSP team members reached out through social media to people during the lockdown period, offering healing and post-traumatic help, and offering support to develop a positive approach to face the COVID 19 challenge.

The Programme Blog ‘Consciousness Conversations’ was also used in this regard. Two series – The Dialogue, and Love in the Times of Corona – that commenced in the initial phase of lock down of COVID-19 used the programme blog to reach across people across India and other countries.



Lecture Series

An international lecture series on ‘Sanskrit Language and Its Traditions: A Journey through its History and Contemporaneity’, was organised from January to April 2021.

Other regular lectures and discussions organised by the CSP Forum include ‘Svāsthya-rasa-bodhini Public Lecture Series’, ‘NIAS CSP Friday Lectures’, ‘Kaavyaalaap’ and ‘The Reading Glass’.

NIAS CSP Public Outreach Outlets

Blog: <https://niascsp.com/>

YouTube Channel: <http://www.youtube.com/c/niascsp>

Subscribers: 1820 (as on March 31, 2021)

Total number of views for the Channel: 43,698

Facebook Page: <https://www.facebook.com/NIASConsciousnessStudies>

Followers: 1704 (as on March 31, 2021)



Sangeetha Menon, *Professor & Head*

Sisir Roy, *Honorary Visiting Professor*

Nithin Nagaraj, *Associate Professor*

Post-Doctoral Associate: Shankar Rajaraman

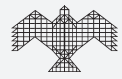
Doctoral Students: Pushya Gautama, Aditi Kathpalia, Meera Kumar Menon, Siddharth S, Niharika Sharma

Research Associates: Amrutha MK, Harikrishnan NB, Rakesh Kumar, Saurabh Todariya, Sukanya G

Junior Research Fellows: Pranay, Priyanka S

Research Assistant: Abhishek Shrivastava

Project Assistant: Ashwini G



HERITAGE, SCIENCE AND SOCIETY PROGRAMME

Introduction

The Heritage, Science and Society Programme aims to explore links between culture and society and science and civilisation, for the documentation and preservation of heritage and material culture through research in archaeological sciences, archaeomaterials and landscape archaeology and with international collaborations.

Research Activities

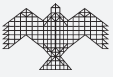
A new project on Vilakku: Lamp Making Traditional Crafts, supported by Dallapiccola Foundation on the traditions of making lamps was initiated. The topic was explored in Tamil Nadu and Kerala towards an audiovisual film and research documentation. Projects on 'Stylistic and Technical Authentication of Bronzes of Karnataka' for Department of Kannada and Culture, Karnataka Government and on Metal Traditions of the Vishwakarma and Kammalar supported by IGNCA were completed. A 2 hour length film on wootz and bell metal was produced. The AHRC supported NIAS-Exeter project 'Performing the Urban Periphery in Southern India' made progress towards completing a monograph. Studies on material culture of the Nilgiris, Archaeometallurgical insights on ancient Tamil sites, under the NIAS-TCS Heritage Initiative which aims to explore ferrous metal finds from recently excavated sites such as Keeladi and Kodumanal were also initiated.

The results of an INTACH funded research project 'Of Dwarves and Dolmens – Tracking the 'Little People' Legends of Megalithic South India' were published as a paper in INTACH Journal in 2020. Studies on a rock-cut temple at Thal in the Kumaon Himalaya, and on a megalithic site reported in 1856 from the same region were completed. Architectural drawings for the rock-cut temple were prepared for the first time since its discovery, and a revised date proposed for its construction. Fieldwork for a study of 'The Vesara temples of Karnataka', which had been interrupted due to the pandemic, was resumed for a short period in December 2020, with visits to several Hoysala temples at Belur, Halebid, Hulikere, Chatchatanahali, Arsikere, Koravangala, Mosale, and Turuvekere. A project on 'Reconnaissance and Aerial Survey of the Stone Alignments at Bison Valley, Kerala' from ICHR was initiated.

A rigorous methodology for integrating spatial data from remote sensing images with historical records (including maps, drawings and textual accounts) that document past landscapes and analyzing it to generate new inferences and novel, falsifiable hypotheses about the past has been developed. Studies on the cultural heritage along the coasts by geospatially analysing maritime maps made during the colonial period and the



A Phamsana Temple at Belur, Karnataka.



topographical and hydrological aspects of Malaprabha river valley region have been progressing well. A project on Geoarchaeology in collaboration with Space Applications Centre, Ahmedabad was initiated.

An ICHR-AHRC funded project titled 'Heritage Transformations of Weddings and Marriage among Women in the Tamil and Parsi Diaspora Communities in India and the UK' was initiated in January 2020. Fieldwork for a the project 'Understanding the Iron Age-Early Historic Landscape Archaeology at Amoor and Siruthavoor, Tamil Nadu' and for the Sundaram Finance-supported project 'Understanding the Past: Sustainable Heritage and Traditional Knowledge Practices in Pottery Town' was completed.

Outreach

An international webinar series on 'Back and Forth in Time: Lectures on the South Indian Past'; supported by Sundaram Finance was organised with INTACH. An online lecture series on Debating Heritage was organised. A workshop on bronze casting for museums, school and college students was also conducted.

Sharada Srinivasan, *Professor & Head*

S Ranganathan, *Honorary Visiting Professor*

Srikumar M Menon, *Associate Professor*

MB Rajani, *Associate Professor*

Smriti Haricharan, *Assistant Professor*

Post-Doctoral Associates: Asmita Mohanty, S Udayakumar

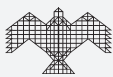
Doctoral Students: Ekta Gupta, Krupa Rajangam, Kuili Suganya, Harikrishnan N

Project Staff: Madan Sundarraj, Suresh Ratha, Uma Krithika, Sheela Karunakaran

SCHOOL OF NATURAL SCIENCES AND ENGINEERING

Programmes

- Interdisciplinary Forays into Human-Environment Interactions: An Integrative Research Initiative in Energy, Ecology and Nonlinear Modelling
- Animal Behaviour and Cognition
- Complex Systems
- Energy and Environment
- Science Communication



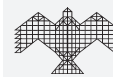
SCHOOL OF NATURAL SCIENCES AND ENGINEERING

The School of Natural Sciences and Engineering carries out original research and policy advocacy in diverse fields. The faculty are grouped under four programmes of which the Science Communication Programme was established only in 2019-20. During the year 2020-21, the School trained a record number of PhD students (20), Post-Doctoral fellows (6) and several young research fellows and project assistants due to the success of its faculty in securing long-term research funding from multiple sources. The faculty are also well-recognised for their policy advocacy and outreach that extends NIAS's standing with the Government and amongst academia. In this way, SNSE is making a major contribution to the vision of NIAS's founder, the late JRD Tata.

Apart from being involved in a multi-year integrated project on Energy, Ecology and Nonlinear Modelling, the faculty in the School work on multiple research projects, carry out teaching, policy advocacy and outreach activities. The details of each of the four programmes in the School are provided in the following sections.

Programmes

- **Interdisciplinary Forays into Human-Environment Interactions: An Integrative Research Initiative in Energy, Ecology and Nonlinear Modelling**
- **Animal Behaviour and Cognition**
- **Complex Systems**
- **Energy and Environment**
- **Science Communication**



INTERDISCIPLINARY FORAYS INTO HUMAN-ENVIRONMENT INTERACTIONS:

AN INTEGRATIVE RESEARCH INITIATIVE IN ENERGY, ECOLOGY AND NONLINEAR MODELLING

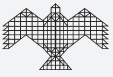
During the year 2020-21, the three Programmes in the School - Animal Behaviour and Cognition, Complex Systems and Energy and Environment – successfully completed this unique, 4-year integrated research initiative in Energy, Ecology and Nonlinear Modelling under the Intensification of Research in High-Priority Areas (IRHPA) scheme funded by the Science and Engineering Research Board (SERB), GoI. The Energy component of the project investigated sustainable pathways to energy utilisation by examining the effectiveness of current technologies, practices, and policies related to opencast coal mining and the environment in India. The Ecology component of the project examined the larger impacts of human-environment interactions through a study of human-primate conflicts in India, their initiation and escalation and factors that affect sustainable coexistence between humans and primates. The nonlinear modelling component of the project modelled a range of nonlinear phenomena, from effects of particulate matter and pollutants in the atmosphere, to animal movement patterns and the effects of climate change on the dynamics of ecological systems to analyse environmental effects on species interactions. The three Programmes carried out a major part of their research in this project in a study site in Telangana to develop an integrated perspective on the impact of coal mining on the environment, flora and fauna in the area.

Energy Component: Key Research Findings

Coal mining and thermal power generation are critical for India to achieve its Sustainable Development Goals, but their long-term sustainability must be improved. The Government of India has taken numerous steps, including auctioning coal mines for commercial coal mining, inviting foreign direct investment, relaxing end-use restrictions, and opening a single portal to track different approvals and clearances required for commencing coal mining operations. The Energy component of the study examined various acts and rules related to the environmental regulation of coal mines in India to highlight the issues related to environmental governance and regulatory efficiency and proposed a “Sustainable Coal Mining Bill or SCM Bill” to constitute a unified authority named “Coal Mines Environment Authority or CMEA” and outline the composition and functioning of this Authority to minimize the adverse environmental impacts of coal mining projects. This unified authority will adopt an integrated approach to both mining and the environment to enhance the effectiveness, efficiency, and transparency of the environmental regulation of coal mines and ensure sustainable energy security for India.

More than 94 percent of the coal produced in India is produced from opencast mines, with potentially harmful effects for the environment, due to loss of forests and habitats, disruption of biodiversity and local communities, and associated damage to agriculture, water resources, and local air quality. Acknowledging these adverse environmental impacts, the Government of India has mandated the restoration of mining areas post mine closure to create a 'self-sustaining ecosystem', while optimizing the use of mined-out land for the benefit of local communities. Within this context, the study reviewed India's opencast coal mine closure policies, regulatory regimes, and operating practices regarding best practices for reclamation and restoration in selected major coal-producing countries and summarized the institutional gaps in meeting the goals of a self-sustaining system in coal mines in India and the way forward to overcome these gaps.

Drawing on the evidence from major coal mining countries (Australia, Indonesia, South Africa, and the USA) as well as an empirical study of all forest, environmental, and mining laws related to coal mining in India, NIAS has also proposed the constitution of the Coal Mines Environment Authority (CMEA), under the proposed SCM bill, to enable more effective monitoring of the coal mines with an integrated approach. The Project team also investigated the state of the air, water, and land environment around two large opencast coal mines in the Dorli-Bellampalli coalfield in Telangana and recommended the establishment of Pit lakes as sustainable post-closure interventions for opencast coal mines in the Indian context.



Ecology Component: Key Research Findings

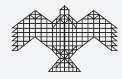
Field surveys were conducted in the Ramagundam area, Telengana, to investigate the presence of human-primate conflict and understand factors that may influence conflict intensities. A total of 56 villages were surveyed and a total of 831 respondents (approximately 15 respondents per village) were surveyed to understand the occurrence and intensity of human-primate conflict. Findings from the study show that presence of agriculture at surveyed locations, average number of primate individuals present in visit to surveyed locations and distance of surveyed location to mining positively correlated with the probability of occurrence of crop damage. This suggests that in the study area primates primarily engaged in house-raiding for food resources and that increase in primate numbers drove crop-raiding visits. There was a moderate, but significant correlation between distance to mining and number of individuals at a location (Pearson correlation coefficient=0.39, $p=0.003$). Distance to mining was a significant predictor for the occurrence of crop damage but not intensity of crop damage. This suggests that distance with respect to the mining determines the occurrence of crop damage, however, the intensity of crop damage is determined by the distance from vegetation patches.

Apart from the study in Ramagundam, studies were also conducted in other parts of the country to investigate human-primate conflict development, mitigation techniques and impact on primate species. The results of the study on crop-raiding monkey groups in Himachal Pradesh showed that the spatial patterns of crop damage vary with respect to crop-type, and that the temporal frequency of crop-raiding events was significantly correlated with the crop-availability index, but not with natural food availability. Conflict due to depredation of cash crops was only limited to a few regions in Solan, while conflict due to subsistence crops was uniform across the study areas with multiple hot spots. The lack of a significant association between crop-raiding frequencies and natural food availability in this study indicates that rhesus largely depend on natural food availability for completing their feeding requirements, and that their feeding on cultivars may be more opportunistic than driven by low natural resource availability. Findings from this study thus provide critical information about the nature of the human-rhesus macaque conflict in northern India and identify potential hotspots of conflict.

A series of field-based experiments were conducted to understand the effectiveness of the following mitigation strategies: (i) Physical Barriers, (ii) Acoustic Deterrents, (iii) Repellents, (iv) Psychological Barriers, and (v) Conditioned Taste Aversion. The findings from the mitigation studies suggest that there are small-scale mitigation options that can be implemented by farmers to reduce the crop-raiding by rhesus macaques. Different types of physical barriers provide different degree of protection from crop-raiding rhesus macaques. Saree fencing, green garden netting and woven netting proved to be effective in reducing crop-raiding intensities for maize. Acoustic deterrents, repellents and psychological barriers resulted in negligible to limited protections from crop-raiding by rhesus macaques while Conditioned Taste Aversions (CTA) was shown to be a useful strategy for reducing crop-raiding. Estradiol and thiabendazole were effective in creating aversions in rhesus macaque individuals and hence these drugs can be used further studies to understand their efficacy in creating aversions for other crop types.

The studies on lion-tailed macaques to understand development of conflict showed that the study population in Puthuthottam, Tamil Nadu showed a drastically altered population density and age/sex composition. Additionally, the ratio of females to immatures indicates the high number of immatures present in the population. All these results indicate the vulnerability of this species in disturbed habitat conditions. Locational and ranging data on the groups indicate the potential ability of lion-tailed macaque troops to disperse across human-modified habitats over short distances. This may not, however, hold true for the long-distance migration, required to maintain natural genetic connectivity. It is, thus, equally important to promote native habitat connectivity to ensure the natural dispersal of the endangered lion-tailed macaque in fragmented landscapes.

A total of 794 people co-living with four different primate species – rhesus macaque *Macaca mulatta*, bonnet macaque *Macaca radiata*, lion-tailed macaque *Macaca silenus*, and Hanuman langur *Semnopithecus dussumieri* - in southern and western India were surveyed to understand people's attitudes toward conflict primate species and how people perceived the costs and benefits of coexistence with primate species. The results from the questionnaire showed that Hindu respondents were significantly more likely to choose traditional active (TA) mitigation strategies like guarding and chasing than were non-Hindus. In general, the longer respondents had experienced conflict with monkeys, the more likely they were to find shooting monkeys acceptable to protect



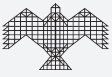
family and health. While most of the respondents liked lion-tailed macaques and Hanuman langurs; about half liked bonnet macaques and only a very small percentage liked rhesus macaques. Only about one-third of the respondents valued primates because they perceived them as sacred (religious value: 38.16%). Results from the study also show that tangible costs such as financial losses primarily determine people's tolerance for coexisting with primates in India. However, intangible benefits also influence people's tolerance for primate presence and their preference for particular primate species, although this may not be overtly acknowledged by people in their routine interactions with primates. Hence, changing this unconscious acceptance of primate-caused benefits to a state of willing recognition of the same would improve people's tolerance for primate presence.

Non-Linear Modelling Component: Key Research Findings

A focus of the project was on the coal mining region around Ramagundam in Telangana state and the growth of atmospheric pollutants in and around this region. An outcome was the formulation of a predictive dynamical growth model to understand the growth of PM 2.5, PM10, SO₂ and NO₂ from the Singareni open cast coal mines and thermal power plant. Predictive growth curves of all pollutants at all 33 measuring stations in Srirampur region (11 in the core zone & 22 in the buffer zone) were computed & it was shown that these were more accurate than the predictions from an ARIMA model. The predictions made from the dynamical model were shown to be in close agreement with recorded data which was obtained subsequently.

Study of the vegetation cover in and around the coal mining region for the period 2012-2019 was carried out to estimate the impact of the air-pollution, if any. Two vegetation indices, NDVI & NAVI were computed and mapped for the study region for the period 2012-2019. Statistical techniques were used, and trend tests were performed for both indices. It was found that there was a decrease in NDVI for almost all pixels in the 2012-2015 period, followed by an increase in the 2016-2019 period. Two trend tests done for NAVI showed a definite decrease in the chlorophyll content in some moderate to dense forested regions. This appears to indicate that there has been some negative impact of the coal mining activity: deposition on the plant canopy of particulate matter from the open cast mines and the thermal power plant, by wind, thereby affecting the leaf reflectance, could be the reason for the apparent decrease in chlorophyll in some regions. On the other hand, significant increase of dense vegetation after 2015 is also seen with both NDVI & NAVI. This is also in agreement with data from the Forest Survey of India.

Dr Shailesh Nayak, *Project Coordinator*
Prof R Srikanth, *Principal Investigator*
Prof Sindhu Radhakrishna, *Principal Investigator*
Prof Janaki Balakrishnan, *Principal Investigator*
Prof Anindya Sinha
Prof Sheela K Ramasesha
Dr Tejal Kanitkar
Dr VV Binoy
Dr Harini Santhanam



ANIMAL BEHAVIOUR AND COGNITION PROGRAMME

Introduction

The primary goals of the Animal Behaviour and Cognition Programme are to understand the evolution of social behaviour and communication, the cognitive foundations of behaviour and to study intraspecific variation in the ecology and behaviour of animals. These core areas of research are complemented by other research interests of faculty members in the areas of environmental decision-making, animal personality, human-wildlife conflict, human-animal studies, environmental education and natural resource conservation. Over the past year, programme members were involved in several different studies that underscore the interdisciplinary nature of work carried out in the programme. These include projects on the demography, behavioural ecology and management of primates and elephants in peninsular India, the nature of human-urban animal interactions, drivers of human primate conflict, affordance learning and object use in wild macaques, behavioural flexibility and environmental coping strategies in fish species, traditional performances in theatre, music or the fine arts as representative of the increasing marginalisation of human and nonhuman societies, cross-cultural musical exchanges in colonial India, the costs of food choices in India, and the challenges inherent in science communication. All projects by programme members were funded by national (DST, ISRO) and international (ERC) organisations.

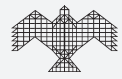
Research Activities

Primate Studies: Two studies on Drivers of Human-Primate Conflict, and Impact of Land Use Changes on Human-Primate Coexistence – were completed over the past year. The study on Drivers of Human-Primate Conflict was funded by DST-SERB and was part of an institutional grant to investigate human-environment interactions. The ABC programme component of this grant, focused on understanding the drivers of human-primate conflict and involved three subcomponents that looked at the initiation and escalation of conflict, conflict mitigation strategies and the human dimensions of wildlife. Some of the key findings of the study are that distance with respect to the mining determines the occurrence of crop damage, however, the intensity of crop damage is determined by the distance from vegetation patches. There was no significant association between crop-raiding frequencies and natural food availability, indicating that rhesus macaque feeding on cultivars may be more opportunistic than driven by low natural resource availability. Saree fencing, green garden netting and woven netting proved to be effective techniques to reduce crop-raiding intensities for maize. Acoustic deterrents, repellents and psychological barriers resulted in negligible to limited protections from crop-raiding by rhesus macaques while Conditioned Taste Aversions (CTA) was shown to be a useful strategy for reducing crop-raiding by macaques.

The study on impact of land use changes on human-primate coexistence was funded by the Respond scheme of ISRO and investigated how landscape changes and agricultural practices drive human primate conflict in Himachal Pradesh. The results from the desk study of historical socio-political and ecological changes in Himachal Pradesh show that the seeds of conflict were laid a long time ago when govt agrarian policies helped to bring out inequitable economic transformations in the state. The GIS-based analysis of land use changes show that increase in pine plantations is related to an increase in conflict intensities across the state. The site-specific analyses of primate numbers and vegetation quality show that greater primate numbers and low diversity in natural vegetation increase conflict intensities



Visual Cognition Experiments on Monkeys.



in particular locations. The findings from the study thus highlight the need for a multi-scale examination of human-wildlife conflict issues.

Data collection for two other projects on Food Object Recognition in Primates, and the Cognitive Bases of Object Manipulation and Tool Manufacture by wild bonnet macaques is ongoing. In addition, impacts of COVID-19 on the human-primate interface and a cross-cultural comparison of human-primate interactions were also studied.

Elephant Studies: A collaborative study on Behaviour of Elephants in Human-Dominated Landscapes in Southern India was completed. Study findings showed that the death / removal of larger bull males in all-male Asian elephant groups leads to the splitting of groups and a consequent increase in crop loss, property damage and human deaths across the landscape. The study also documented the emergence of a new social order in the Asian elephant — the all-male group, consisting of both young and older individuals — in response to increasing anthropogenic pressures; evidence of phenotypically flexible, behavioural strategies to increase survival and reproductive fitness in the species. Work was initiated for a new study on Elephant-human Relations in North-eastern India. This new study is supported by three new grants from Rufford Foundation, India Inlaks Foundation and Idea Wild.

Fish Studies: Experiments and fieldwork related to two studies on fishes were undertaken during the past year. The study on understanding the determinants of social decision making was conducted using the megafish the Deccan Mahseer, as a model system, while the second study investigated people's perceptions of endangered fishes, in order to develop policies for their conservation.



The Deccan Mahseer

Costs of Human Food Choices: Supported by Humane Society International-India, and conducted in collaboration with Azim Premji University, Bengaluru, this study aims to evaluate the ecological costs of the food choices humans make with particular focus on human-animal coexistence and environmental sustainability.

Urban Ecologies: Governing Nonhuman Life in Global Cities. This four-year project conducted along with Cambridge University and funded by a Horizon 2020 grant from the European Research Council, Brussels focuses on a range of wild, feral and cultivated species in the Indian cities of Delhi and Guwahati and provides insights into what urbanisation might entail for these other than-humans. More specifically, the study assays ways in which nonhuman knowledges enable our rethinking about the nature of expertise that counts in urban governance and attempts to animate urban political thought by reflecting upon how such etho-geographical insights can potentially contribute to our understanding of the political ecologies of urbanisation.

Outreach

Programme members' work on human-primate interactions was widely reported in the media, chiefly, The Hindu, the Times of India, The Wire and Roundglass Sustain.

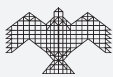
Sindhu Radhakrishna, *Professor & Head*

Anindya Sinha, *Professor*

VV Binoy, *Assistant Professor*

Post-Doctoral Associates: Shaurabh Anand, Arijit Pal, Vishwanath Varma

Doctoral Students: Nitesh S Anchan, Athira Balakrishnan, Sayan Banerjee, Anmol Chowdhury, Ashni Kumar Dhawale, Sneha Gutgutia, Shruti Ragavan, Shubhangi Srivastava, Vignesh S, Sreedhar Vijayakrishnan



COMPLEX SYSTEMS PROGRAMME

Introduction

Research conducted in the Complex Systems Programme aims to make useful predictions of how diverse complex systems behave and thereby determine how some control over their behaviour can be achieved. This is done by applying varied mathematical techniques and physical concepts as appropriate. Studies on complex systems therefore cover a wide range of subjects and are by nature, interdisciplinary, multidisciplinary, cross-disciplinary and trans-disciplinary. Since its inception, the programme has made leading and pioneering contributions to subjects as varied as modelling animal movement in human modified landscapes, climate impact on ecological systems and prediction of insect pest outbreak cycles, predictive modelling of atmospheric pollutant growth, dynamics and acoustic cavitation of charged microbubbles, etc.

Research Activities

Over the course of the previous year, programme members were primarily involved in research activities related to funded projects from SERB, Department of Science and Technology, Government of India.

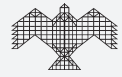
Modelling Nonlinear Complex Phenomena: From Climate Change, Environmental Effects to Interacting Species: Regime shift has been observed after 1985 in the populations of sardines and mackerels along the Indian coasts and it is believed that this has happened on account of climate change. A model was constructed incorporating climate change effects which reproduces the observed behaviour. The model was validated covering both the Arabian Sea and the Bay of Bengal using data of fish catch (Indian oil sardine & Indian mackerel) obtained from CMFRI and sea surface temperature and precipitation data from IMD. Similarly, another model was constructed that predicts an increase in jellyfish blooms (in agreement with observations) and change in competitor fish numbers (sardines & mackerel) with rising sea surface temperatures, with increased harvesting rate of forage fish, with eutrophication and with an increased incidence of substrates in the oceans.

The effect of human intervention and land use change on insect pest outbreak cycles, accommodating climate/environment effects as well as changes in the vegetation cover caused by human intervention was modelled. The model was validated using 310 years of recorded data of pest outbreak cycles of the budmoth insect on Alpine larch trees. Explicit time dependence was introduced in a species-specific parameter that we deduced from our analysis of the cycles, was affected by human interventions. This enabled us to (i) successfully simulate cycles which lingered on at peak maxima for longer periods & (ii) reproduce all features seen in the recorded data with our model, thereby successfully validating our model.

A model of animal movement in an environment which includes man-made landscape features was constructed using stochastic differential equations and validated using radio telemetry data of hornbill movement in the Pakke Tiger Reserve in Arunachal Pradesh. Simulations of hornbill flight ranges agree very well with observations. A ratio was found which not only characterizes a species but also indicates an individual's breeding status. The model would help in planning human settlements so that these do not interfere with a species' natural range.

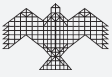
The successful completion of this project and the insights gained from the research findings of this integrated study is a trendsetter for other multidisciplinary research initiatives within the institute and elsewhere.

Complex Dynamics of Simple Nonlinear Mechanical Systems and Their Applications. Funded by the MATRICS scheme of DST, this project broadly aims to elucidate the dynamical mechanisms underlying the diverse kinds of nonlinear oscillations observed in different mechanical systems under different types of forcing. Different cases of non-uniform length variation of a pendulum were studied and it was found that the action is not an adiabatic invariant. Bursting oscillations were reported in a pendulum whose length varies periodically in time – a result which was not known earlier for this system. The dynamics of a system comprising of a Type-I neuron (modelled by a Morris – Lecar (ML) neuron) coupled to a Type-II neuron (modelled by a Fitzhugh-Nagumo (FN) neuron) via an electrical synapse (gap junction) was explored. It was found that type-I and



type-II neurons exhibit mutually phase synchronized burst patterns at large values of the coupling which tend towards complete synchronization on increasing the coupling strength. These results may find applications in understanding the dynamical mechanisms underlying information storage and retrieval and spatial information processing in the hippocampus executed by interneurons through their network activity. Also these may be useful in understanding the physical mechanisms governing hippocampal ripple oscillations which contribute in the process of information transfer from the hippocampus to the neocortex, for consolidation of memory and in the development of epilepsy.

Janaki Balakrishnan, *Professor & Head*
Post-Doctoral Associate: Sudharsana V Iyengar
Junior Research Fellow: Bhavna Kandra



ENERGY AND ENVIRONMENT PROGRAMME

Introduction

The overall focus of Energy and Environment Programme (EEP)'s research is to contribute to the achievement of the Sustainable Development Goals (SDGs 2, 3, 6, 7, 8, 9, 11, 12, 13, and 14.b) to carry out in-depth, policy-relevant research from a multi-disciplinary perspective. During 2020-21, EEP research related to the power sector made an impact on Government policy with NIAS's work being specifically cited by NITI Aayog and the Ministry of Power in inter-ministerial correspondence. NITI Aayog included Prof Srikanth as a member of a newly-constituted nine-member "Expert Group for a comprehensive study on the future coal scenario in India till 2050." Dr Tejal Kanitkar was invited by the Ministry of Environment, Forest and Climate Change (MoEFCC), to provide detailed comments on Government of India's Biennial Update Report (BUR) to be submitted to the UNFCCC. In February 2021, the Nuclear Power Corporation of India (NPCIL) signed an MoU with NIAS to conduct a one-year research project to study the role and economic viability of nuclear in India. During the previous year, EEP faculty taught five courses for the PhD students of the 2020-21 batch and other students.

Research Activities

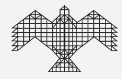
During 2020-21, EEP recorded significant progress in all the research projects supported by various Ministries and Research agencies of the Government of India. The specific objectives and salient results of each of these funded research projects are as follows:

Interaction between Components of Earth and Human Systems at Various Spatial and Temporal Scales. A MOES supported project, the goals of this research are linked to SDG 2 (zero hunger), SDG 3 (good health and well-being), SDG 7 (affordable and clean energy), SDG 11 (sustainable cities and communities), SDG 12 (responsible consumption and production), SDG 13 (climate change), and SDG 14.b (access for small-scale artisanal fishers to marine resources and markets). The major objectives are: to assess the socio-economic impacts of the agrometeorological services provided by the India Meteorological Department (IMD) in the Kalyana Karnataka region, and to assess the socio-economic impacts of the marine fishery advisories issued by the Indian National Centre for Ocean Information Services (INCOIS) in Odisha. A study to correlate ambient air pollution with geospatial data, meteorological parameters, and land-use changes has been undertaken.

DST Clean Coal Project: An Integrated Approach to Development and Environment in the Power Sector. (Rs.151 lakhs, 2018- 2021). The overarching objective of this project is to recommend the optimal technology and policy interventions that need to be implemented at the State and Central levels to meet South India's



Sri D Sanjeevaiah Thermal Power Station (2 x 800 MW) at Nellore, Andhra Pradesh.



The Largest Solar Power Plant in India in Pavagada, Karnataka.

growing needs for reliable, low-cost energy while mitigating the environmental impacts of coal utilisation. EEP research in this project is linked to SDG 3 (good health and well-being), SDG 7 (affordable and clean energy), SDG 12 (responsible consumption and production), and SDG 13 (climate change). The key findings of the research were presented in two stakeholder consultation workshops in September 2019 and January 2021. A Policy Brief was also prepared to summarise the actionable recommendations to be considered by policymakers. On March 31, 2021, MoEFCC notified the amended Environment Protection (Amendment) Rules, 2021 (EPAR 2021) with two major changes recommended by NIAS in its Policy Brief on Thermal Power Plants. The NIAS Transition Plan has operational, economic, and environmental benefits. Specifically, the implementation of this Transition Plan will lower specific coal consumption by 19.3 percent, reduce specific CO₂ emissions by 18.2 percent, cut down specific water consumption by 20.4 percent, and reduce the energy charges of Thermal Power Plants in SR by six percent.

R Srikanth, *Professor & Head*

AV Krishnan, *Visiting Professor (Principal Scientist till December 31, 2020)*

Sudha Mahalingam, *Raja Ramanna Chair Professor*

Sheela K Ramasesha, *Principal Scientist (till September 25, 2020)*

DK Srivastava, *Homi Bhabha Chair Professor*

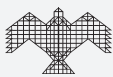
Tejal Kanitkar, *Associate Professor*

Rudrodip Majumdar, *Assistant Professor*

Harini Santhanam, *Assistant Professor*

Post-Doctoral Associates: Chanchal Chauhan (*till March 19, 2021*), Harikrishna M (*till November 30, 2020*)

Doctoral Students: Sashi Kumar, CS Vijay, Sarvajeet Kumar Sinha, Soumyadeep Das, VP Lavanyaa, Aariz Ahmed, Tanmay Ghosh, N Rakesh, Sudip Kundu



SCIENCE COMMUNICATION PROGRAMME

Introduction

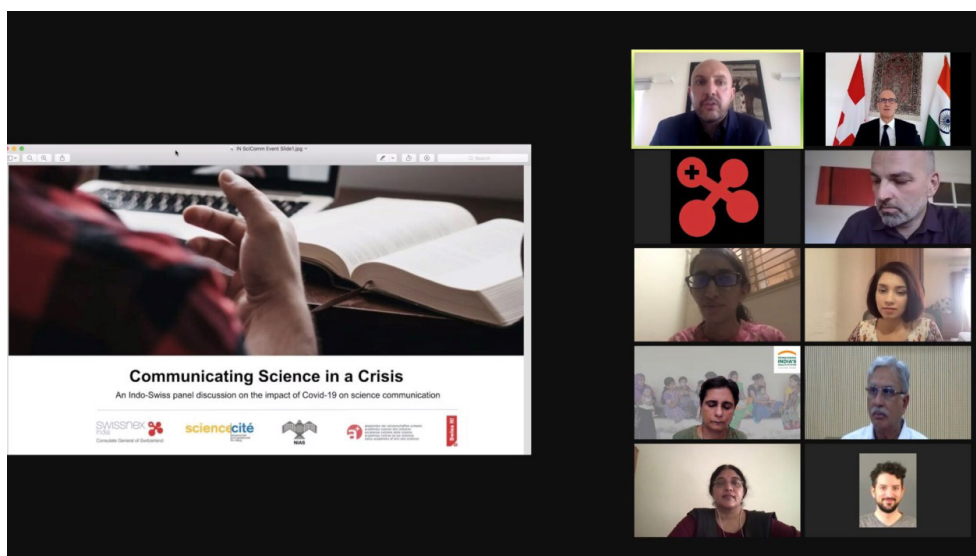
The research activities of the Science Communication programme are centred around science and risk communication and the focus of the work is to obtain insights into the effective management of public perceptions of risks associated with new and emerging technologies. Activities relating to risk communication have been focussed on exploring different dimensions of understanding, beliefs and attitudes towards nuclear technologies and risks associated with it in diverse strata of the Indian population, and tracing out the influence of various social, psychological and cultural factors on the acceptance of nuclear energy in India. An important goal of the Programme is to identify strategies based on science and technology communication for eradicating fear of hazards and enhancing the acceptance and appreciation of nuclear power by the general public of India.

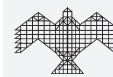
Research Activities

The various research activities of the programme can be categorized under two main heads.

Science Communication: Original content was created and published on the NIASComm.in website including over 105 ToonLogs, and interviews of eminent science communicators under the ongoing video series 'Let's Talk' were posted. The third in the 'Let's Talk' series, 'Sciuntoons and Sciuntoonics' featured Dr Pradeep Srivastava. All video content was published through the Channel NIAS Science Communication on YouTube, and made available under the website's VLog section. All of the above contents were actively shared via several social media handles. An online survey was conducted on the role of visual media in science communication. A study was also carried out to identify institutes and websites that are involved in science communication.

Fieldwork was completed for a study on understanding sense making of warning messages broadcasted during cyclones. Apart from these, studies were also conducted to investigate the impact of COVID on science communication. While the study on Impact of COVID-19 on Science Communication Ecosystems in India, Switzerland and USA was completed last year, a new study was initiated on COVID-19 in collaboration with Open Source Pharma Foundation. The multinational study by NIAS in collaboration with Swissnex in India and Boston, Science et Cité and the Swiss Academies explored the impact of COVID-19 on the science communication ecosystem in India, Switzerland and USA. The results of this research are available on the website <https://covidscicom.org/about/>. The study in collaboration with Open Source Pharma aims to understand the relationship between Health Belief Model (HBM) and attitudes towards the COVID-19 vaccine.





Risk Communication: A website, Nuclear Risk Perception and Communication @NIAS, dedicated to Nuclear Risk Communication was commissioned, and work on populating the website was given impetus. A new series 'Let us Discuss RiskComm' was initiated. This series aims at discussing various aspects of risk communication. Four episodes featuring interactions with Prof VS Ramamurthy, Prof DK Srivastava, Dr KS Parthasarathy and Dr SK Malhotra have been hosted. Emergency alert and public warning systems in different countries were studied. A detailed study on 'False alarm in Pickering Nuclear Power Plant, Canada' was carried out. Additionally, nuclear risk communication activities in different countries like Canada, France, United Kingdom, Japan, Germany, Switzerland, US, and India was surveyed.

The use of social media for communication of nuclear programmes in various countries is being analysed. Aiming to reach out to younger generation, it is proposed to conducting quizzes (online) periodically. As part of a study on perceptions regarding 'Nuclear Energy in India', a three-part series of surveys was commissioned. Efforts are on to establish a network of institutions focusing on risk communication.

Outreach

A social media challenge titled 'Bust Corona Myth' to eliminate public misconceptions regarding COVID-19 was conducted. A multinational platform <https://covidscom.org/> for sharing events related to science communication during the pandemic was launched. An online Indo-Swiss panel discussion on Communicating Science in a Crisis, in collaboration with Swissnex in India and Boston, Science et Cité and the Swiss Academies was organised.

M Sai Baba, Honorary *Visiting Professor & Head (TV Raman Pai Chair Visiting Professor till December 9, 2020)*

VV Binoy, *Assistant Professor*

Post-Doctoral Associate: Ipshita Chowdhury (*till August 13, 2020*)

Junior Research Fellow: Siddharth Sinha

Technical Assistant: Nandha Gopan

Doctoral Student: Sreshtha Mondal

SCHOOL OF SOCIAL SCIENCES

Programmes

- Education
- Inequality and Human Development
- Urban and Mobility Studies



SCHOOL OF SOCIAL SCIENCES

The School of Social Sciences has built on a long tradition developed by several leading social scientists of the country. This tradition has evolved, across the three programmes of the school, into a broad-based concern over the challenge of exclusion in India. The three programmes have travelled different paths to pursue an understanding of the processes of exclusion and their manifestation in everyday life. In understanding the multiple dimensions, and interconnections, of different processes of exclusion the School has developed a more comprehensive and heterogenous view of the Indian economy and society as a whole.

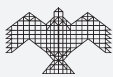
During the past year, the oldest programme in this school – the Education Programme – focused on the following on six lines of research: (i) Analysis of National Education Policy 2020 (ii) Sustainability and Education (iii) Employment, education and skills (iv) Education and the Urban (v) Women in STEM disciplines (vi) Shifts in Indian higher education. The programme completed two reports one on education for sustainability and the other on urban dislocation and the politics of educational access. The programme also launched a project on Vocational Skill Education Policy and continued with its project on the paradigm shift in the thinking of giftedness among rural students.

The Inequality and Human Development Programme received financial support from Tata Consultancy Services to further build on the understanding of inequality developed in the first phase of TCS supported projects. The new phase is focusing on the instrumental impact of inequality on five important processes in India: the process of technological change, the process of regional inequalities influencing development, those left behind from the process of socio-economic transformation, the creation of inter-generational inequality, and the process of climate change. The year also saw the publication of a paper and policy briefs based on the first phase of TCS supported projects. A book on inequality is also being published by Routledge.

The Urban and Mobility Studies Programme also spent most of the year on analysis, write-up and dissemination of the findings of recently completed research projects. The final report of the APU funded project, *'World-City' Planning in Andhra Pradesh: A New Model for Urbanisation?*, was submitted to Azim Premji Foundation, and a paper on caste struggles around land in the development of Amaravati was accepted for publication. A policy brief on the current skilling paradigm was also completed. There were also publications from the *Speculative Urbanism* project that documented diverse processes of displacement and dispossession amongst low-income urban and rural communities in Bengaluru.

Programmes

- **Education**
- **Inequality and Human Development**
- **Urban and Mobility Studies**



EDUCATION PROGRAMME

Introduction

The Education Programme has been working on research, teaching, advocacy and policy analysis. The faculty members focused on the following lines of research: (i) Analysis of National Education Policy 2020 (ii) Sustainability and Education (iii) Employment, education and skills (iv) Education and the Urban (v) Women in STEM disciplines, and (vi) Shifts in Indian higher education.

Research Activities

The team made significant contributions at all levels of education. In particular, the work on school quality, education of the disadvantaged, education of the gifted and women in the STEM disciplines has been recognised nationally and internationally. The Programme continued the weekly webinar series Education after COVID, where 20 lectures were organised. A collaboration with Vidyashilp University was initiated to set up a Centre for Learning Sciences that will function as a laboratory on campus to develop pedagogic practices, innovative assessments systems and faculty development in the campus.

Education for Sustainability: A Study of Curriculum and Teachers. To understand the existing status of education for sustainability in India, a study of two schools in Bengaluru and analysis of NCERT textbooks was undertaken. The findings of the study revealed that the syllabus and the model textbook, have provisions for teachers to talk about sustainability in a meaningful way. However, teachers appeared to be ill-informed and unprepared for the ways and resources to discuss about sustainability. Though the social policies and economic models contribute to unsustainable practices, it is suggested that teachers can be re-oriented in the sustainable ways of looking at these models through intensive dialogues which they can further transmit amongst students.

Urban Dislocations and the Politics of Educational Access: Metro Colonies, Bengaluru. Focusing on the restructuring of Bengaluru that is underway since 2010, this study looked at the connections between urban infrastructure, disadvantaged communities and the place of education in the ever changing city. The research focused on two neighbourhoods that were dislocated and re-settled as metro colonies. Study findings lend insights into how families respond to the Metro project that brought a number of changes in their lives and the value they place on education. While reliable access to good education continues to be a distant reality for the marginalized, the study unpacks the conditions under which families, despite being in precarious conditions, turn to education.

Vocational Skill Education and Dropout Reduction: The study aims to explore the ways in which vocational education becomes an important domain to understand the linkages between Education, Vocational Skill Interventions, Employment and Sustainable Livelihoods among disadvantaged adolescent youth. The first phase of the study specifically focuses on school related parameters that broadly capture various important dimensions of school resources—human and physical. This is mainly to understand the nature of public provisioning of quality aspects of school education and the potential of the schools under study to effectively address student drop-out challenges by integrating vocational skill component into school curriculum.

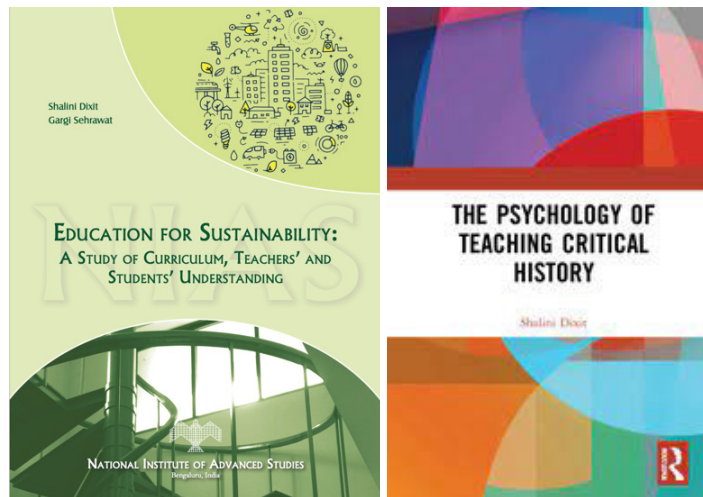


Field Assistant, Ms Raja Lakshmi interacting with School Teachers of Government Girls High School, Koraput NAC, Koraput.



Paradigm Shift in Gifted Education:

Most research on education of the gifted and talented has been carried out in the west and developed countries that represent a relatively homogenised schooling system and standardised curricular and assessment practices. Unlike developed countries, India, like many developing countries, has large number of schools at the lower continuum of quality parametres, diverse student and teacher backgrounds and uneven distribution of educational infrastructure that poses a challenge for standardised identification and mentoring practices for the gifted and talented. It is in this context, that there is a need to develop identification protocols and mentoring that reflect the socio-economic realities and cultural specificities that are unique to India.



Outreach

Education Programme organised weekly webinars entitled 'Education After Covid 19' between July and October 2020. A talk titled 'Cultural Psychology and Solving Social Psychological Problems' by Prof Carl Ratner, Institute for Cultural Research and Education, CA, on behalf of National Academy of Psychology in India, was organised on December 12, 2020.

Anitha Kurup, *Professor & Head*

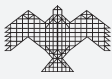
Shivali Tukdeo, *Associate Professor*

Shalini Dixit, *Assistant Professor*

Jeebanlata Salam, *Assistant Professor*

Malavika Kapur, *Visiting Professor*

Doctoral Students: Shaima Amatullah, Chestha Arora, Subroto Das, Megha Poonia, Sabna ES, Shruti Shankar, Varun Sudhakaran, Sourj Majumder, Shashank SR



INEQUALITY AND HUMAN DEVELOPMENT PROGRAMME

Introduction

The Inequality and Human Development Programme (IHDP) was set up in 2015 to develop policy options based on a multidisciplinary and empirically consistent conceptualisation of inequality, and to contribute towards public discourse to enable more informed policy choices. The programme received a major boost from the first phase of TCS financial support. This funding was focused on the inequalities in two aspects of India's rural transformation: the demand for non-farm jobs, and farmers' suicides. Based on the progress made during the first phase of TCS support the programme set itself two tasks for 2020-21: to develop the results of the two projects into a larger understanding of inequality, and to launch further research to understand the role inequality plays in India's transformation.

The larger understanding of inequality was developed into a book built around the programme's conceptualisation of inequality as differences that are ethically unacceptable. The book recognizes that the specific differences that are considered ethically unacceptable can be arrived at rationally, that is normative inequality, or simply through existing beliefs, that is descriptive inequality. It argues that the interaction between normative and descriptive inequalities determines the nature of interventions by individuals, groups and the state, thereby bringing to the fore the instrumental role of inequality.

Research Activities

The insights gained from the first phase of TCS support pointed to the need to research five new areas. These five projects have received the benefit of the second phase of financial support from TCS.

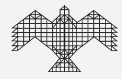
Autonomous Adaptation to Climate Change: The main objective of this project is to examine the nature of the negotiations that determine the response of local communities to climate change, that is, autonomous adaptation. The project aims to capture these effects by focusing, not so much on what the approach to climate change should be, as on what it is. It will look not so much at the prescriptions of governments and NGOs as on the actual, unequal response of local communities and individuals to climate change. The project has begun the process of identifying sites for study, based on their having undergone high degrees of climate change.



A worker in a village in Gola taluk of Ramgarh district in Jharkhand with airpods he had acquired on a stint as a migrant worker.

The Left Behind in Rural Transformation: The main objective of this project is to provide as comprehensive a picture as possible of the process of being left behind in the process of rural transformation, and the inequalities it involves. It will build on results from data generated in the first phase of TCS projects of villages where there has been migration to urban centres. It will use ethnographic and qualitative methods to identify the new questions about rural transformation that this process generates.

Inequality and Technological Transformation: The process of rural transformation is enabled by at least two instruments of technology. The first relates to the mobility that allowed millions of workers in the more economically backward regions to the north and east



of India to travel thousands of kilometres to carry out non-permanent assignments in the south and the west of the country. The second technological instrument that enabled rural transformation, refers to how specific instruments of communication technology have a direct role in the process of transformation. The main objective of this study is to capture the multiple dimensions and inequalities of mobility and communication in the linkages that have emerged between the rural and the urban.

Age and Inequality: The primary objective of this project is to examine the impact of rural transformation on age-related intra-personal inequalities. The study will be based on the four forms of rural transformation identified in the first phase of TCS projects, in order to examine whether the nature of rural transformation has an impact on age related inequalities. This project will rely on secondary data, primary data generated in the first phase of TCS projects, and qualitative data analysis.

Inequality and Human Development: The main objective of this project is to explore the relationship between ethically unacceptable differences and individual freedoms. Based on the results of the first phase of TCS projects it will go beyond the indicators normally associated with human development: literacy, life expectancy and per capita income. Instead, this project will use build a macro picture using economic theorisation and empirical evidence across time and place. It will then use in-depth studies of specific regional experiences to explore the local dynamics of the relationship between inequality and human development.

Narendar Pani, *Professor & Head*

Debosree Banerjee, *Assistant Professor*

Chetan Choitani, *Assistant Professor*

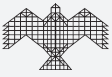
Anant Kamath, *Assistant Professor*

Post-Doctoral Associates: Kshipra Jain, Nisar Kannagara, Swati Narayan

Doctoral Students: Ankita Rathi, Meera Sudhakar, Ajit Kumar Babu, Chandana Rajsekharan Bindu,

Shilajit Sengupta

Project Associates: Malavika Belavangala, Pallavi Krishnappa, Kritika Singh, Paul Thomas



URBAN AND MOBILITY STUDIES PROGRAMME

Introduction

The Urban and Mobility Studies Programme explores the social and economic reverberations of urbanisation, labour migration and social transformations in India's cities, towns and villages. The programme engages in interdisciplinary research, drawing on sociology and social anthropology, urban studies, geography, gender studies, and migration and transnational studies. The core methodological strength lies in ethnography and qualitative methods.

Research Activities

Recent and on-going projects have examined the reconstitution of rural communities and economies by urbanisation; the impacts of the financialisation of land on urban local economies and informal settlements; the social and economic consequences of real estate-led development in Bengaluru and a 'new city' project in Andhra Pradesh; and changing patterns of labour migration, skill acquisition and employment in the urban service economy.

The on-going project 'Speculative Urbanism: Land, Livelihoods, and Finance Capital', funded by the National Science Foundation (USA) and carried out in collaboration with the University of Minnesota and UCLA (USA), is a comparative study of changes in land use, property relations, livelihoods and urban ecologies in the context of rapid urban growth and the circulation of finance capital in the real estate sector in Bengaluru and Jakarta. Significant publications and conference papers have emerged from this work and more are in the pipeline. The outputs and findings are being disseminated through a project website: <https://www.speculativeurbanism.net/>

With the recent completion of two major projects and the third to wind up in 2021, the programme is in the process of reorienting its research agenda with the aim of producing new policy-relevant knowledge on the changing interfaces of rural and urban through the lens of labour mobility. Future research projects will explore labour supply chains in the construction industry, the informal rental housing market in Bengaluru, and climate change induced migration in the Sundarbans.



Urbanising Village on Periphery of Bengaluru (NSF Project).

Outreach

An online workshop on Academic Publishing for doctoral students, in collaboration with JSAD Co-Editors, December 7, 2020 was conducted.

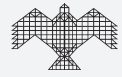
Carol Upadhy, *Professor & Head*

Supriya RoyChowdhury, *Honorary Visiting Professor*

Aadra Surendran, *Assistant Professor (till January 21, 2021)*

Research Associates: Juwairia Mehkri, Deeksha M Rao

Doctoral Students: Keya Bardalai, Priya Gupta, Snehashish Mitra, Malavika Rao



INTERSCHOOL PROJECTS

Early Fusion Music: Cross-cultural Musical Exchanges in Colonial India from the late 18th to the Early 20th Century

This project spans multiple programmes and schools in NIAS, and has three distinct components: 1) Examining instances of cross-cultural musicological exchanges during the said period in South India 2) in Bengal and 3) Examining the phylogeny of tunes through computational analysis of acoustic signals.

In the study, the realm of music, and cross-cultural exchanges that happened in various parts of India, largely exemplified by the colonial adoption of Indian classical and popular music, especially in Bengal are being examined. The development of a new genre of compositions in south Indian classical music—*Notṭusvara*, wherein devotional words in Indian languages (mainly Sanskrit or Telugu) were set to popular tunes played by European bands during the period are being studied. The phylogeny of tunes through computational analysis of acoustic signals to characterize their complexity and identify patterns in the notation that may reveal specific signatures of the composer have been taken up. A literature review and archival study has been undertaken.

Prof Andindya Sinha, *Principal Investigator*

Dr MB Rajani

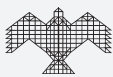
Dr Nithin Nagaraj

The Nonhuman in Indian Sculpture: Tracing the Depiction of Elephants and Primates in Monumental Sculpture through Indian History

This project investigates the evolutionary history of the depiction of nonhuman species, especially elephants and primates, in Indian monumental sculpture from about 2,000 years before present. It primarily focusses on the materials used, stylisation in form and accuracy of anatomical details – as influenced by the nature of the medium – and the sculpting techniques of various schools and guilds of craftsmen in different historical periods. The project also aims to examine the faithfulness with which certain aspects of the behavioural profiles and cognitive abilities of these species have been sculpted, in contrast to the anthropomorphisation of their forms and behaviour. The project has commenced with reconnaissance visits to different monuments shortlisted from the literature and will be followed by the documentation and detailed analyses of nonhuman sculpture that are representative of different time periods in Indian history.

Dr Srikumar M Menon, *Principal Investigator*

Prof Anindya Sinha



POLICY BRIEFS

A Strategy for Migrant Workers

NIAS/SSc/IHD/U/PB/10 /2020

Narendar Pani

The Covid-19 pandemic has brought sharply into focus the challenge of migrant workers in India's post 1991 development strategy. While we still do not have meaningful estimates of the number of these workers, the magnitude of their demand to go home during the pandemic points not just to the fact that there are millions of them, but also to the reality that they do not see the cities, where they have spent many of their working years, to be their homes.

Natural Resource, Conflict and People's Movement: A Strategy for Resolution

NIAS/CSS/CRPR/U/PB/13/2020

Anshuman Behera

Long-standing conflicts around rights over land, forest, and water resources have led to the emergence of several people's movements. This study brought out critical aspects involved around conflicts over natural resources leading to people's movements in Odisha. The organized efforts by several people's movements demanding rights over resources have been a critical factor leading to multiple conflicts in and around the tribal majority districts of Kalahandi and undivided Koraput. The immediacy of the conflicts in the form of people's movements demands critical attention for effective resolution.

How do we develop a strategy towards addressing the demands of the marginalized people over their rights on land, forest, and water resources that would eventually resolve the conflicts in forms of people's movements?

Farmers' Suicides in India

NIAS/SSc/IHD/U/PB/16/2020

Narendar Pani

With three lakh farmers committing suicide over the two decades between 1995 and 2014, this phenomenon has emerged as a symbol of the crisis in Indian agriculture. There have been a large number of academic efforts to understand farmers' suicides in great depth, but they have tended to be divided by the regions they have studied, the methods they have used, and the questions they have raised, with most remaining loyal to their disciplines and ideologies. There have been fewer attempts to piece together a picture that is both comprehensive and sensitive to the complexity of the processes that lead to farmers' suicides. The study linked theory to the empirical picture, using mixed methods from ethnography to primary and secondary data.

Transition plan for thermal power plants

NIAS/NSE/EEP/U/PB/17/2020

Srikanth Raman and AV Krishnan

Coal-based Thermal Power Plants (TPPs) constitute 56% of the total installed capacity and generated 72% of the electricity during 2019-20. India's proven coal reserves are sufficient to fuel the country's need for thermal power generation for several decades. Therefore, the predominance of coal-fired power generation in India will continue for several years to provide energy security and drive economic growth. Particulate Matter (PM) pollution from TPPs is a major concern in many parts of India even as the ambient concentrations of Sulphur-di-Oxide (SO₂) in the atmosphere around TPPs using Indian coals are well within the National



ambient air quality standards. In the prevailing scenario of financial stress in the power sector, can a transition plan be developed to achieve an optimal electricity source mix for the country? The implementation of the NIAS recommendations for a Transition Path for TPPs together with the expeditious installation of indigenous pollution control measures, such as coal beneficiation, sorbent injection, and high-efficiency electrostatic precipitators for PM Pollution control in all TPPs will not only help the power sector to breathe easy but also embody the true spirit of *Atmanirbhar Bharat*.

Ashram Schools: Challenges and Future Directions

NIAS/SSc/EDU/U/PB/24/2020

Shivali Tukdeo

Residential schools have been part of our education system for a long time. Going back to the 19th century as formal educational institutions developed, residential schools performed three primary functions: an extension of the homebound learning practices; an alternative to formal schools; and a place to educate the wealthy. While the history of boarding schools tells us the story of travel and educational access, history of residential schools for the disadvantaged is more complex. For the Adivasi communities, separated by distance and social marginalisation, residential schools hold tremendous importance and promise.

Urban Migration, Skilling and Employment in the New Service Economy

NIAS/SSc/UMP/U/PB/01/2021

Carol Upadhya and Supriya Roychowdhury

The most recent phase of India's economic development has been marked by a shift from manufacturing to services. The growth of organised services, or the 'new service economy', in the metro cities has created new employment opportunities for relatively unskilled workers with a few years of school education, attracting youth from small towns and rural areas. In response to this shift, skill training programmes are oriented to preparing young people for low-end service jobs in sectors such as hospitality, housekeeping, organised retail, security services, and transportation. The issue is: Do skill training programmes, in their current avatar, lead to stable jobs and decent work? How can they be improved to strengthen employment opportunities for youth from disadvantaged backgrounds?

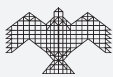
Satellite Remote Sensing Data Policy: Benefits of Free and Open Data

NIAS/NSE/U/PB/04/2021

Diwakar PG and Shailesh Nayak

The economic benefits of remote sensing data are largely from the utilization of data in diverse applications. Free, open and timely access of satellite data has the potential of greatly enhancing the use of such data at national, regional and global levels and their potential for economic and societal benefits. Such data becomes valuable when they are transformed into information that could be used for decision making. Typical examples are, disasters & crisis management, advisory services to fishermen and farmers, assessment of forest wealth, crop production forecasts, ground water targeting, etc. It may be interesting to note that atmosphere and ocean related satellite data are already open and free for access and use.

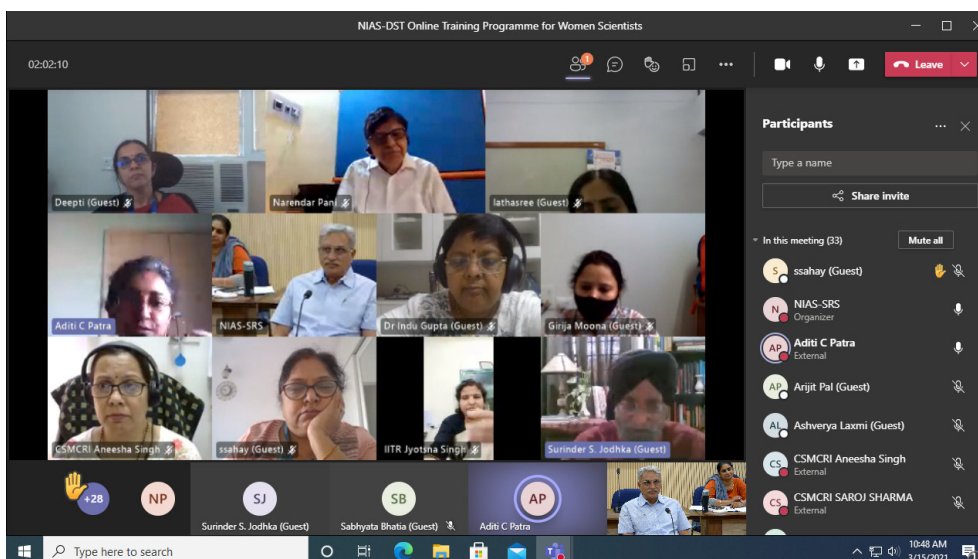
Easy availability of data will also facilitate innovations, research & development by academia, enhanced research publications, value added products by private industries, new business opportunities/ startups, and so on. Due to such aspects of data use, the global trend is to disseminate medium and coarse resolution satellite data at 'no cost' to users.



TRAINING PROGRAMMES

NIAS has been conducting training programmes in order to develop leadership to address various societal issues through multidisciplinary approaches. The Department of Science and Technology supported two training programmes including one for women scientists.

NIAS-DST Online Training Programme for Women Scientists on Social Responsibility of Scientists: Pathways and Outcomes – March 15 to 19, 2021



Theme: Social Responsibility of Scientists: Pathways and Outcomes

Inaugural Address: Beginning with an inaugural address by Prof Surinder Jodhka on “Science and the Sociological Imaginations” the programme provided lectures by several leading scientists, technologists, science administrators, social scientists and policy makers.

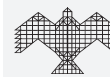
Speakers: The speakers included Prof P Balam, Prof Dhruv Raina, Prof Shiv Vishwanathan, Prof Rohini M Godbole, Dr Indu Murthy, and Dr Jhanavi Phalkey. The discussions that followed the lectures allowed for interesting and sometimes contentious debates on the responsibilities of scientists and technologists in making scientific enquiry socially relevant.

During the afternoon sessions, participants made presentations and discussed specific cases including the Manhattan Project, Usage of Algorithms to Predict Susceptibility of a Person to Commit Crime by the US Judiciary, the Battle to Set Up a Telescope at Hawaii, and the Stanford Prison Experiment.

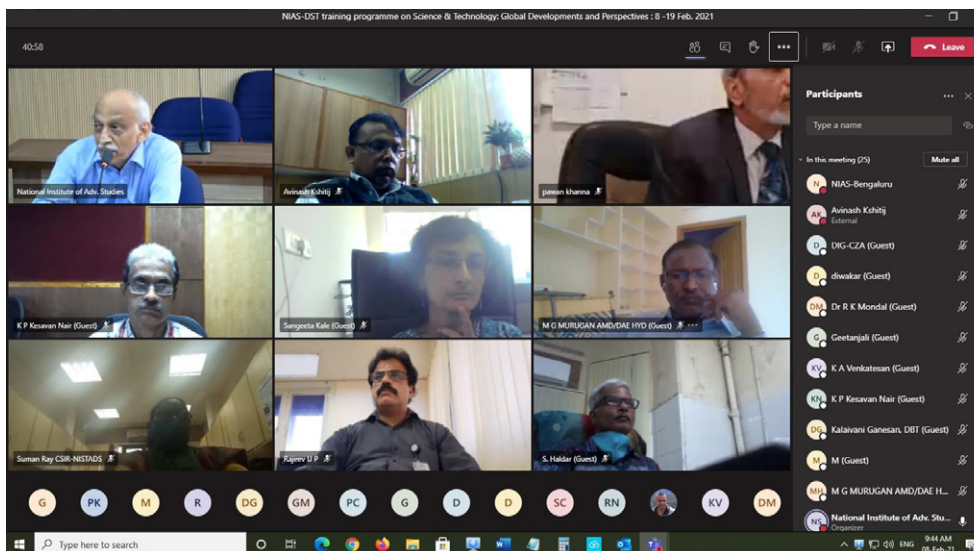
The training programme concluded with a valedictory address by Dr Shekhar C Mande, Secretary, DSIR and Director General, Council of Scientific and Industrial Research.

Feedback: This training programme provided an opportunity for women scientists in government institutes to interact and debate with some of the country’s leading figures in the social and physical sciences.

Coordinators: The programme was coordinated by Prof Narendar Pani and Dr Harini Santhanam. Ms V Girija assisted in the coordination of the programme.



NIAS-DST Online Training Programme on Science and Technology: Global Developments and Perspectives – February 8 to 19, 2021



Theme: Science and Technology: Global Developments and Perspectives

Inaugural Address: The programme was inaugurated by Dr AS Kiran Kumar, Former Chairman, ISRO and Secretary, Department of Space.

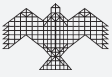
Speakers: The speakers included former Secretaries in the Government of India like Prof VS Ramamurthy, Prof SS Meenakshisundaram, Prof PS Goel, Dr Shailesh Nayak and Prof Ayappan and other eminent scientists such as Prof V Bhujanga Rao, Formerly DG, DRDO; Prof LM Patnaik, Former VC of DIAT, Pune; Prof G Padmanabhan, Former Director IISc; Prof Vijayalakshmi Ravindranath, IISc; Dr Poornima Prabhakaran, Public Health Foundation; Prof Sharachandra Lele, ATREE; Dr Sudhir Kumar Mishra, CEO, Brahmos; Mr G Padmanabhan, Formerly ED of RBI and Chairman of Bank of India; Dr BK Sahu; Prof Sudarshan Iyengar, Former VC of Gujarat Vidyapith; Mr M Gopalakrishnan, Former Member (CWC); Prof T Jayaraman, MS Swaminathan Research Foundation; Dr Arvind Gupta, President of Vivekananda Foundation; and Dr Nanadini Kannan, several of whom also serve as Adjunct Professors in NIAS. Apart from these speakers, NIAS faculty like Prof Rajaram Nagappa, Prof Narendar Pani, Prof PG Diwakar, Dr Tejal Kanitkar, Dr Anshuman Behera and Dr Ananth Kamath also delivered talks and engaged in discussions with participants.

The programme also had six sessions dedicated to presentations by the participants which provided an opportunity for the participants to know one another before exploring avenues for collaboration.

The programme concluded with the valedictory function in which Prof Kota Harinarayana, Chancellor of BHU and President, Aeronautical Society of India, delivered the valedictory address and interacted with the participants.

Feedback: The feedback from the participants was that the programme helped them to develop a broad perspective of S&T developments and also provoked them to think about positioning their work for cooperation across the organisations and disciplines. Contextualising the developments in our country vis-a-vis global developments also added value to the programme.

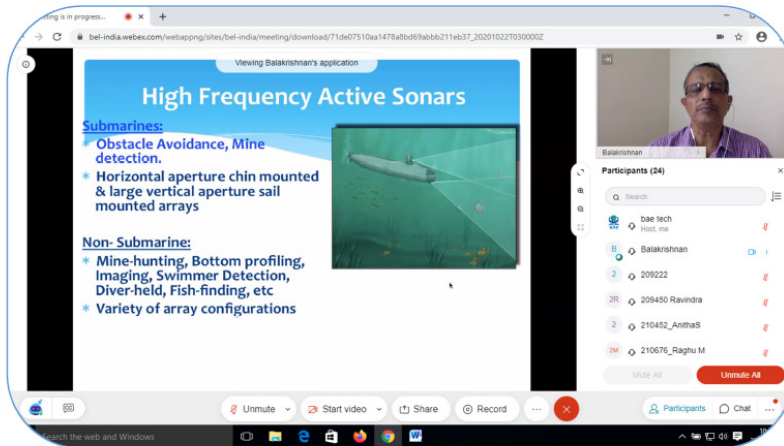
Coordinators: The programme was coordinated by Prof R Srikanth and Dr Anshuman Behera. Mr KS Rama Krishna assisted in the coordination of the programme.



Technology Training (Online) on Emerging Fields in Defence Technologies and Challenges – October 19 to 22, 2020



BEL Academy for Excellence- Nalanda, Bengaluru-94

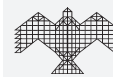


Theme: Technology Training on Emerging Fields in Defence Technologies and Challenges, organised for BEL Academic for Excellence, Bengaluru, covered the various fields of technology areas with a thrust on contemporary technological developments in the relevant fields.

Sessions: The various sessions addressed different aspects of advanced technologies in material science, manufacturability aspects, design, development, information handling, cyber security issues, avionics, advanced avionics, and the role of design hubs in achieving the higher levels of efficiencies in the areas of 5th Gen combat aircrafts etc. The training was attended by 33 participants from across various SBUs/Units of BEL manufacturing divisions, PDIC and CRLs. Participants actively participated during live online sessions, organised through Cisco WebEx platform.

Feedback: The overall feedback received was excellent and participants expressed the view that they looked forward to more such useful programmes from NIAS.

Coordinator: The programme was coordinated by Prof PM Soundar Rajan.



DOCTORAL PROGRAMME

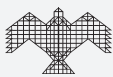


The doctoral programme aims to prepare students for developing interdisciplinary orientation to respond to complex challenges faced by India as well as global society. NIAS is recognised as a research institute and its doctoral students are awarded doctoral degrees by the University of Mysore, Manipal Academy of Higher Education (MAHE), the University of Trans-Disciplinary Health Sciences and Technology (TDU) and the Defence Institute of Advanced Technology (DIAT).

Due to the COVID-19 pandemic, NIAS conducted a written examination and two sets of interviews for admission to its Doctoral Programme in May-June 2020. A total of 247 applications were received across the four Schools, out of which fifteen candidates were selected for the Programme.

The academic year in the Institute began in September 2020 with the first semester of coursework ending in December. All teaching was conducted online, with the fresh cohort of students attending four mandatory courses: Foundations, Research Methodology, Academic Research Writing and Research Publication Ethics. The other optional courses offered by the faculty during this semester included: Maritime Security; GIS for Strategic Studies; Conflict, Peace and Security Studies; Social Conflict; Scientific Theories of Consciousness; Spaces of Power in Past Landscapes; Indian Temple Architecture; Methodologies in Social Sciences and Typology of Research; Rethinking Qualitative Research in Social Science; Phenomenology and Social Research; Economic Regulation: Theory and Practice; Higher Education; Sociology of Education; Social Psychology and Adaptation to Change; Cognition and Collective Intelligence; Conventional and Non-Conventional Pathways to Harness Energy; and Statistical Research Methods. All the NIAS courses were open to students from other institutions and the interested public as well.

Following the completion of coursework, during which time the students developed their doctoral research proposals, the Qualifying Examination was held on February 15, 2020. All 15 students successfully qualified in this examination for the registration of their doctoral degree in the various universities that they chose to register in. The doctoral research proposals were then presented to the Institute and their methodologies subjected to the scrutiny of the NIAS Research Ethics Committee. After this, Student Advisory Committees – including members from within and outside NIAS were formed – and finally submitted their proposals to the respective universities for registration.

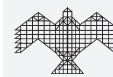


The following students presented their respective doctoral research proposals to the Institute from March 3 to 5, 2021.

Name	Supervisor	Doctoral Research Proposal
Shruti Shankar	Shivali Tukdeo	The Many Meanings of Work in Bengaluru's Schools: Histories, Cultures and Practices
Akriti Sharma	D Suba Chandran	Climate Change and the Himalayas: A Case for Regional Governance
Lokendra Sharma	D Suba Chandran	Technology and International Relations: A Case Study of Cyberspace and Artificial Intelligence
Anand Ganesh	Nithin Nagaraj	Recursion, Dynamics and Causality: Topics in Model Analysis
Harikrishnan N	Smriti Haricharan	Meta-Narratives of Space: Operationalising 'Tinaí' through Sangam and Bhakti Poetry in Early Medieval Pallavan and Pandyan Landscapes
Pushya A Gautama	Sangeetha Menon	Situating the Correlates of Wellbeing through an Ayurvedic Approach to the Concepts of Consciousness, Self and Life-Purpose
Ankita Ranjan	Tejal Kanitkar	Exploring the Various Axes of Equity in Climate Change
Joan Shilpa Kiran	Tejal Kanitkar	Energy Dependence and Just Transitions: A Study of Developed and Developing Countries
Abhijit Konwar	Sindhu Radhakrishna	A Study on the Distribution and Ecology of Scaly Anteaters in India
Ashisha K	Sindhu Radhakrishna	Ecological Flexibility and Gut Microbial Dynamics in the Gray Slender Loris <i>Loris Lydekkerianus</i>
Kumar Saurabh	Rudrodip Majumdar	The Potential of Oil and Gas Sector in India's Energy Mix During the Energy Transition Period
Vinitha MS	VV Binoy	Study on the Determinants of Social Decision Making in Deccan Mahseer (<i>Tor Khudree</i>), A Megafish
Shashank SR	Shivali Tukdeo	Higher Education as a Site of Investments: A Case Study of Institutions Run by Lingayat and Veerashaiva Mathas in Karnataka
Souri Majumder	Anitha Kurup	Role of Mythology in the Learning and Identity Formation among Adolescents: A Study of Two Schools in West Bengal
Varun Sudhakaran	Jeebanlata Salam	Aspiration and Higher Education among the OBCs: A Study among the Thiyyas and Vannathan

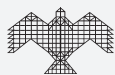
The coursework for the second semester, February – May 2021 commenced with the following courses being offered by different faculty: Research Writing and Communication; Peace Research: Contemporary Global Conflicts and Peace Processes; Global Politics: Contemporary World Affairs; Science Diplomacy: Science for Diplomacy and Diplomacy for Science; Securitisation of the Maritime Domain: Role of Violent Non-State Actors in the Indian Ocean; Philosophy, Self and Consciousness: Exploring the Context of Experience; Principles of Photogrammetry; Sangam Literature and the Archaeology of Tamil Nadu; Input-Output Methods in Economic Analysis; Schooling, Identity and Culture: Current Research and Debates; and Advanced Energy Systems I.

The NIAS Annual Students' Colloquium, organised from January 18 to 20, 2021, saw forty-one doctoral students presenting progress reports of their work to the larger NIAS community. This colloquium, an important milestone in one's academic journey in the Institute, allows the students to showcase their research, open it up to the academic community of NIAS for a rigorous examination of ideas.



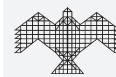
The following students were awarded the doctoral degree between April 1, 2020 and March 31, 2021.

SL No.	Date	Name	Supervisor	Title	University
1	July 30, 2020	Ankita Rathi	Narendar Pani	Transition from Village to Town: A Study of Two Settlements in Punjab	MAHE
2	September 7, 2020	Murali Murti	Arun Vishwanathan	Knowledge Process and their Role in Innovation: A Comparison of Selected Chinese and Indian Practices	MAHE
3	September 28, 2020	Priya Gupta	Carol Upadhya	Adivasi Rights and Wildlife Conservation: Contesting Citizenship in Nagarahole Tiger Reserve	MAHE
4	October 14, 2020	Krupa Rajangam	Sharada Srinivasan	Rethinking UNESCO World Heritage Conservation Management: Negotiations with Everyday Heritage Governance at Hampi, India	MAHE
5	October 16, 2020	Savitha Suresh Babu	Shivali Tukdeo	The Social Worlds of Higher Education: Welfare Hostels as Pedagogic Sites	MAHE
6	December 9, 2020	Varun S Bhatta	Sundar Sarukkai	Philosophical Analysis of Wave-Particle Duality of Photons	MAHE
7	January 29, 2021	Anupama Mahajan	Anitha Kurup	Growing up Gifted: Class, Social Advantaging and Schooling Practices	MAHE
8	February 11, 2021	Sreedhar Vijayakrishnan	Anindya Sinha	Seeing the Elephant: Socioecology and Physiology of the Female Asian Elephant <i>Elephas maximus</i> in an Anthropogenic Landscape in Southern India	MAHE
9	February 15, 2021	Shyam Hari P	Anshuman Behera	Understanding Political Conflict and Alliance Formation: A Case Study of Two Gram Panchayats in Kerala	TDU
10	February 22, 2021	Aditi Kathpalia	Nithin Nagaraj	Theoretical and Experimental Investigations into Causality, its Measures and Applications	MAHE
11	March 31, 2021	Siddharth S	Sangeetha Menon	A Study on the Metaphysics of Conscious Experience	University of Mysore

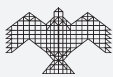


The following students are currently pursuing their doctoral studies in the Institute.

SL No.	Name	Supervisor	Date of Joining	Doctoral Thesis	University
1	Neesha Dutt	Dilip R Ahuja	August 2, 2010	Urban Greens: Ecological Impacts and Socio-Economic Drivers of Turfgrass Ecosystems	MAHE: Thesis submitted
2	Keya Bardalai	Carol Upadhya	August 11, 2014	Northeast Women Migrants in Delhi: Aesthetic Labour in the New Consumer Economy	MAHE: Thesis submitted
3	Sashi Kiran C	Kshitija A Joshi	August 3, 2015	Understanding and Modeling Residential Electricity Demand in India	MAHE: Thesis submitted
4	Meera Sudhakar	Narendar Pani	August 3, 2015	Development Policy as a Social Process: Case Study of <i>Niranthara Jyothi</i> in Karnataka	MAHE
5	Vijay C S	Kshitija A Joshi	August 3, 2015	Electricity System Modeling for Large Scale Renewable Integration in India	MAHE
6	Subroto Dey	Shivali Tukdeo	August 1, 2016	Mapping Life Paths of Youth in a Backward District: A Case Study of Three Higher Secondary Schools in Mandla, Madhya Pradesh	MAHE
7	Ekta Gupta	MB Rajani	August 1, 2016	Advancing Archaeological and Geomorphological Understanding of the Indian Coast using Old Cartographic and Visual Records	MAHE
8	Kuili Suganya	MB Rajani	August 1, 2016	Geospatial Analysis of Ancient Water Features in the Archaeological Landscape of Malaprabha River Valley	MAHE
9	Vijayashree C S	Carol Upadhya	August 1, 2016	Production, Circulation and Consumption of Bhuta Masks and Sculptures: An Ethnographic Study	MAHE
10	Sherin Ajin Jose	M Mayilvaganan	August 1, 2016	Spatialising Nation-State through the Discourses of Development and Security at the Borderland: A Case Study of Tawang	MAHE
11	Surya Sankar Sen	Anshuman Behera	August 1, 2016	Implications of Local Conflicts on Bilateral Relations: Cases of Land Boundary and Enclave Conflicts on India–Bangladesh Relations	TDU
12	Sarvajeet K Sinha	R Srikanth	August 1, 2017	Consolidation of Laws Related to Environment Protection in Surface Coal Mining in India: Prospects and Challenges	MAHE
13	S Vignesh	Sindhu Radhakrishna	August 1, 2017	Interactions of Consent: Human–Bovine Relations in Tamil Nadu	MAHE
14	Cheshta Arora	Anitha Kurup	August 1, 2017	Scientific, Technological, and Gendered Relations: An Ethnographic Study of Women Scientists, Engineers and Factory Workers	MAHE



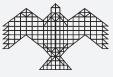
SL No.	Name	Supervisor	Date of Joining	Doctoral Thesis	University
15	Snehashish Mitra	Carol Upadhyaya	August 1, 2017	Contesting Settlements on the Hills of Guwahati: A Study of Urban Political Ecology in Northeast India	TDU
16	Nitesh S Anchan	Anindya Sinha	August 1, 2017	Other Minds: Philosophical and Empirical Approaches in the Conceptualisation of the Nonhuman Mind	TDU
17	Ashni K Dhawale	Anindya Sinha	August 1, 2017	Ecological and Behavioural Adaptations of Lion-Tailed Macaques to a Rainforest–Anthropogenic Habitat Matrix in the Western Ghats Mountains of Southern India	TDU
18	Chandana R Bindu	Narendar Pani	August 1, 2017	Patterns of Response to Inequality in Relation to the Development Process: A Study of Two Villages in Gujarat and Kerala	TDU
19	Shilajit Sengupta	Narendar Pani	August 1, 2017	Political Consequences of Intra-village Inequalities in Rural Transformation: A Study of Two Villages in West Bengal	TDU
20	Ajit Kumar Babu	Narendar Pani	August 1, 2017	Inequalities in the Process of Former Agriculturists Learning Non-Agricultural Skills	TDU
21	Lavanyaa V P	R Srikanth	August 1, 2018	Air Quality and Public Health: A Case Study in Bengaluru	MAHE
22	Soumyadeep Das	R Srikanth	August 1, 2018	Way Forward for the Viability of Power Distribution Sector in India: A Case study in Karnataka	MAHE
23	Aparupa Bhattacharjee	D Suba Chandran	August 1, 2018	Role of Religion in Contemporary Nation-Building: A Case Study of Sri Lanka, Myanmar, and Thailand	TDU
24	Sreshtha Mondal	VV Binoy	August 1, 2018	Determinants of the Protective Action Decision Making during Floods and Cyclones: A Study of Kerala	MAHE
25	Zarnain Manzoor	Anshuman Behera	August 1, 2018	Discourses around the Kashmiri Pandits: Engaging with 'Fractured Identity' and the 'Politics of Deadlock'	TDU
26	Shaima Amatullah	Shalini Dixit	August 1, 2018	Perceptions of Social Discourses and Identity Negotiations: A Psychological Study of Muslim Community in India	TDU
27	Hrudaya Chandana K	Anshuman Behera	August 1, 2018	Discursive Formulations of Violence in Ethnic Conflict: Generation and Transmission of Values	MAHE
28	Meera Kumar	Sangeetha Menon	August 1, 2018	The Secret of the Word and the Theatrics of Faith Healing: Tracing the Language–Consciousness Nexus Through <i>Mantravada</i> Traditions in Kerala	MAHE
29	Niharika Sharma	Sangeetha Menon	August 1, 2018	<i>Parāsamvit</i> and <i>Pratyabhijñā</i> : An Onto-Epistemic Enquiry in Kashmir Shaivism	TDU



SL No.	Name	Supervisor	Date of Joining	Doctoral Thesis	University
30	Shruti Ragavan	Anindya Sinha	August 1, 2018	Of Cash Cows and Piggy Banks? Natures, Cultures and Politics of the Cultivated Animal in Urban India	TDU
31	Anmol Chowdhury	Anindya Sinha	August 1, 2018	Rethinking the Urban 'Wild' Animal: Ethnologies and Ethnographies of Nonhuman Primates in Indian Cities	TDU
31	Sneha Gutgutia	Anindya Sinha	August 1, 2018	Life at the Urban Margins: Human-Animal Relations and Precarity in Indian Cities	TDU
33	Shubhangi Srivastava	Anindya Sinha	August 1, 2018	A Tail of Two Cities: Ecological, Socioeconomic and Political Dynamics of Human-Dog Relations in Urban India	MAHE
34	Sayan Banerjee	Anindya Sinha	August 1, 2019	Encountering More-than-Human Lifeworlds: Behavioural and Political Ecologies of Human–Elephant Relations in Northeast India	MAHE
35	Preeth Khona	MB Rajani	August 1, 2019	Early Fusion Music: Cross-Cultural Musical Exchanges in Colonial India from the Late 18 th to the Early 20 th Century	MAHE
36	Anna George	Smriti Hariharan	August 1, 2019	Reverberations of <i>Cilapatikaram</i> and the Worship of <i>Kannaki</i> in Caste, Gender and Regional Identities of Kerala and Tamilnadu	MAHE
37	Megha Poonia	Shalini Dixit	August 1, 2019	Collective Memory and Social Identity: A Study of Denotified Tribes in Rajasthan	TDU
38	Sabna ES	Anitha Kurup	August 1, 2019	Understanding Practices Related to Menstrual Health among Women in Rajasthan	MAHE
39	Athira Balakrishnan	Sindhu Radhakrishna	August 1, 2019	From Wild to Vermin: A Study on Human–Wild Pig Conflict in India	MAHE
40	Rakesh G Nannewar	Tejal Kanitkar	August 1, 2019	Assessment of Socio-Economic Impact of Agromet Services in Hyderabad–Karnataka Region	MAHE
41	Tanmay Ghosh	R Srikanth	August 1, 2019	Assessing Public Transit Integration with Special Focus on First and Last Mile Connectivity	MAHE
42	Sudip Kumar Kundu	Harini Santhanam	August 1, 2019	Assessment of the Socio-Economic Impacts of Marine Fishery Advisories for Odisha	MAHE
43	Aariz Ahmad	R Srikanth	August 1, 2019	Interlinking of Rivers: Case Study of the Almatti-Pennar Link	MAHE
44	Rashmi B R	D Suba Chandran	August 1, 2019	Arctic Governance: The Role of Institutions with Special Reference to the Arctic Council, Saami Council and Arctic Circle	TDU
45	Harini Madhusudan	D Suba Chandran	August 1, 2019	Militarisation in Outer Space: A Case Study of India, Japan, and France	TDU



SL No.	Name	Supervisor	Date of Joining	Doctoral Thesis	University
46	Shruti Shankar	Shivali Tukdeo	August 1, 2019	The Many Meanings of Work in Bengaluru's Schools: Histories, Cultures and Practices	MAHE
47	Akriti Sharma	D Suba Chandran	September 1, 2020	Climate Change and the Himalayas: A Case for Regional Governance	TDU
48	Lokendra Sharma	D Suba Chandran	September 1, 2020	Technology and International Relations: A Case Study of Cyberspace and Artificial Intelligence	TDU
49	Anand Ganesh	Nithin Nagaraj	September 1, 2020	Recursion, Dynamics and Causality: Topics in Model Analysis	Yet to register
50	Harikrishnan N	Smriti Hariharan	September 1, 2020	Metanarratives of Space: Operationalizing 'Tinai' through Sangam and Bhakti Poetry in Early Medieval Pallavan and Pandyan Landscapes	Yet to register
51	Pushya A Gautama	Sangeetha Menon	September 1, 2020	Situating the Correlates of Wellbeing through an <i>Ayurvedic</i> Approach to the Concepts of Consciousness, Self and Life-Purpose	Yet to register
52	Ankita Ranjan	Tejal Kaniitkar	September 1, 2020	Exploring the Various Axes of Equity in Climate Change	Yet to register
53	Abhijit Konwar	Sindhu Radhakrishna	September 1, 2020	Distribution and Ecology of Scaly Anteaters in India	Yet to register
54	Ashisha K	Sindhu Radhakrishna	September 1, 2020	Ecological Flexibility and Gut Microbial Dynamics in the Gray Slender Loris <i>Loris lydekkerianus</i>	Yet to register
55	Joan Shilpa Kiran	Tejal Kaniitkar	September 1, 2020	Energy Dependence and Just Transitions: A Study of Developing and Developed Countries	Yet to register
56	Kumar Saurabh	Rudrodip Majumdar	September 1, 2020	The Potential of Oil and Gas Sector in India's Energy Mix during the Energy Transition Period	Yet to register
57	Vinitha M S	VV Binoy	September 1, 2020	Study on the Determinants of Social Decision Making in Deccan Mahseer (<i>Tor khudree</i>), A Megafish	Yet to register
58	Shashank S R	Shivali Tukdeo	September 1, 2020	Higher Education as a Site of Investments: A Case Study of Institutions run by Lingayat and Veerashaiva <i>Mathas</i> in Karnataka	Yet to register
59	Souri Majumder	Anitha Kurup	September 1, 2020	Role of Mythology in the Learning and Identity Formation among Adolescents: A Study of Two Schools in West Bengal	Yet to register
60	Varun Sudhakaran	Jeebanlata Salam	September 1, 2020	Aspiration and Higher Education among the OBCs: A Study among the Thiyyas and Vannathan	Yet to register
61	Manaswini V	Anshuman Behera	February 1, 2021	- Not decided -	Yet to register



ANNUAL MEMORIAL LECTURES

Two annual memorial lectures were organised in the institute:

K Subrahmanyam Memorial Lecture

Amb TCA Raghavan

Director-General, ICWA, New Delhi

Securitization and De-securitization in India-Pakistan Relations

December 1, 2020

Third Baldev Raj Memorial Lecture

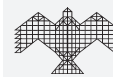
Vice Adm Cutler Dawson (Retd)

US Navy

From the Sea to the C-Suite

October 27, 2020

Dr MB Rajani is the Coordinator of Annual Memorial Lectures.



PUBLIC PROGRAMMES

NIAS PUBLIC EVENTS

Prof R Ramakumar

Professor, Tata Institute of Social Sciences, Mumbai
The Three Farm Acts: An Assessment of the Claims and Arguments
December 15, 2020

Dr N Manoharan, Associate Professor, Christ
(Deemed to be University);

Prof Rahul Tripathi, Head, Department of Political
Science, University of Goa
Release of Global Protest Movements, NIAS Quarterly
on Contemporary World Affairs (Vol.2, Issues 2&3)
and Panel Discussion
(In Association with Konrad Adenauer Stiftung)
December 2, 2020

Prof Shailesh Nayak

Director, NIAS
How Do Scientists Predict the Weather?
October 13, 2020

Mr S Balasubramanya

Former Vice President and Chief Risk and
Compliance Officer, TCS, Bengaluru.
Judicial Transformation Through Technology
September 7, 2020

Prof VS Subrahmanian

Director, Center for Digital International
Government, the University of Maryland
*Cyber Security Primer – Attacks, Vulnerabilities,
Exploits, Malware...*
July 22, 2020

Dr Karthik Sheshadri

Cisco Systems, San Jose
*Toward a Unified Model of News Influence on Public
Interest and Legislation*
July 22, 2020

NIAS-WEBINAR ON HUMAN DEVELOPMENT AND THE G-20

Mr Suresh Prabhu

G-20 Sherpa for India and Adjunct Professor, NIAS

Prof Narendar Pani

Dean, School of Social Sciences, NIAS

Prof Babu Mathew

National Law School of India University
May 28, 2020

NIAS GLOBAL POLITICS COURSE

Prof C Raja Mohan

*Director, Institute of South Asian Studies, National
University of Singapore*
2021: Global Issues to Watch
The Release of 100th Issue of The World This Week
(TWTW)
(In Collaboration with Christ Deemed to be
University, Kristu Jayanti College; Pondicherry
University and Goa University)
January 2, 2021

Dr Mallika Joseph

Policy Adviser and Coordinator, Global Partnership
for the Prevention of Armed Conflict (GPPAC)

Dr Rajeshwari Balasubramaniam

Assistant Professor, GD Goenka University
Women and Peacebuilding during the Pandemic
(As Part of NIAS PhD Course on Global Politics –
Global Politics, Young Voices a Network/Dialogue of
Scholars working on International Relations.)
September 24, 2020

CSP-TDU PANEL DISCUSSION

Mr Jayachandran Palazhy

Founder, Attakalari

Ms Lakshmy Gopaldaswamy

Artiste, Dancer and State Best Actress Award
Winner

Dr Saurabh Todariya

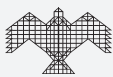
Research Associate, NIAS

Dr Vishnu Prasad CN

TDU

Prof Sangeetha Menon

Dean, School of Humanities, NIAS
May 27, 2020



IPRI PEACE LECTURE

Prof Amitabh Mattoo

Jawaharlal Nehru University, New Delhi
J&K Today: One Year After the Removal of Article 370
August 4, 2020

PAKISTAN READER DISCUSSION

Dr Farhan H Siddiqi

Quaid-i-Azam University, Islamabad
Pakistan's Political Culture: With Special Reference to Political Sub-Cultures of the PML-N, PTI, PPP
August 31, 2020

NIAS-CSP EVENT

Prof Sangeetha Menon, Prof Prasenjit Biswas, Prof Koshy Tharakan and Dr Saurabh Todariya

Panel Discussion on Knowledge, Being and the Social, in Phenomenology
October 12, 2020

PHILSCI INDIA'S LECTURE SERIES

Dr Wendy Parker

Department of Philosophy, Virginia Tech
Explaining Climate Change: Important Roles for Computer Simulation
November 21, 2020

Dr Michael Strevens

Department of Philosophy, New York University
The Illogical Logic of Science
(Evidence, Models and Explanation)
October 17, 2020

Dr Paul Humphreys

Department of Philosophy at the University of Virginia
Predictive Failures in Neural Nets
(Evidence, Models and Explanation)
October 10, 2020

Dr Heather Douglas

Michigan State University
Trust in Scientific Evidence
September 26, 2020

Dr Jacob Stegenga

Department of History and Philosophy of Science, University of Cambridge
Bayesian Mechanista
September 5, 2020

Dr S Gregory

Chairman, Board of Studies in Anthropology, Kannur University
Eco-Aesthetics, Indigenous Culture and Development
September 4, 2020

Prof Harold Kincaid

University of Cape Town
Objectivity in the Social Sciences
August 22, 2020

NAMMA BENGALURU TIMES FRIDAY LECTURE

Dr MB Rajani

Associate Professor, NIAS

Ms Kuili Suganya

Conservation Architect, PhD Scholar, NIAS
Gravity Fed Water System of 19th Century Bengaluru
August 14, 2020

Ms Meera Iyer

Freelance Writer and Researcher, Convenor, INTACH Bengaluru
The Story of the Bengaluru Fort
August 7, 2020

Mr Pankaj Modi

Conservation Architect, Partner @ Saythu and Technical Coordinator @ Intach, Bengaluru Chapter
Restoring Bengaluru's Built Heritage: A Lesson in Understanding Local and Regional Architectural Diversity
July 31, 2020

Mr Udaya Kumar PL

Citizen History Researcher and Conservationist, Heritage, Science and Society Programme, NIAS
The Journey of Bengaluru – From the Southern Hemisphere to 1536CE
July 24, 2020

Dr SK Aruni

Deputy Director, Indian Council of Historical Research, Bangalore Centre
Bangalore' as Gleaned from the European Travelogue Records – A Survey (from AD 1780s to 1925)
July 17, 2020

**Ms Krupa Rajangam**

Heritage Practitioner–Scholar, NIAS and Founder-Director Saythu

Whitefield: New Town, Old Heritage or Old Town, New Heritage?

July 10, 2020

Dr NS Nalini

Professor, Nitte School of Architecture, Bengaluru

Planning Principles to Two Old Extensions of Bangalore: Basavanagudi and Malleshwaram

July 3, 2020

ISSSP LECTURE SERIES**Amb PS Raghavan**

Former Chairman, National Security Advisory Board, Government of India

Security Paradigms in a Polarized World

February 22, 2021

NIAS LECTURES ON CONTEMPORARY PAKISTAN**Mr Rana Banerji**

Special Secretary (Retd), Cabinet Secretariat, Government of India

How the Establishment Controls the Institutions, People and Pakistan's Destiny

January 29, 2021

NIAS-NAOP PUBLIC LECTURE**Dr Carl Ratner**

Institute for Cultural Research and Education, Trinidad, CA

Cultural Psychology and Solving Social-Psychological Problems

December 12, 2020

NIAS-DIAT WEBINAR**Dr Amit Mukherjee**

Assistant Professor, International Strategic and Security Studies Programme/Conflict Resolution and Peace Research Programme, School of Conflict and Security Studies, NIAS

Dr Upasna Singh

Assistant Professor, Department of Computer Science and Engineering, Defence Institute of Advanced Technology, Pune

Satellite Image Interpretation and Applications of AI and ML in GIS

November 23, 2020

NIAS EDUCATION PROGRAMME WEBINAR SERIES – EDUCATION AFTER COVID 19**Prof Shankar S Mantha**

Former Chairman, National Regulator (AICTE)

Critical Evaluation of Multiple Entry and Exit based Reforms in NEP 2020

December 3, 2020

Dr Aditi Arur

Assistant Professor, Christ University, Bengaluru

When Silent Actors Talk: Bodies as Learning Infrastructure in the Post-Pandemic World

(NIAS Education Programme Webinar Series – Education After COVID 19)

November 26, 2020

Prof Nagaraju Gundemeda

Professor, Department of Sociology, University of Hyderabad

Quality and Equity in Higher Education: Decoding Social Justice in National Education Policy 2020

(NIAS Education Programme Webinar Series – Education After COVID 19)

November 12, 2020

Prof Dinesh Kumar Srivastava

Homi Bhabha Chair Visiting Professor, NIAS
Education and Research During and After the Pandemic

(NIAS Education Programme Webinar Series – Education After COVID 19)

November 5, 2020

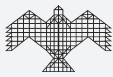
Prof M Sai Baba

TV Raman Pai Chair Professor, NIAS

Learning, Teaching and Mentoring: What Role the Premier Research Institutes Can Play?

(NIAS Education Programme-Webinar Series- Education after COVID 19)

October 29, 2020

**Prof Avinash Kumar Singh**

Equity and Inclusion as Policy concerns in Education- Reflections on the National Education Policy 2020

(NIAS Education Programme Webinar Series – Education After COVID 19)
October 22, 2020

Prof Veera Gupta

Why and What Leaders Must Know about Education of Children with Disability (CwD)

October 15, 2020

Ms Aditi Khanna

Teacher, Gateway School of Mumbai

Ms Mansi Sharma,

TGT, Kendriya Vidyalaya

Reflections on Institutional Support During COVID-19: School Teachers' Perspectives

October 8, 2020

Dr Meenakshi Thapan

Self-Knowledge and Relatedness in Everyday Life: An Educational Approach

October 1, 2020

Mr Saiju Aravind

Founder and Chief Mentor, EduBrisk Knowledge Solutions, Bengaluru

Virtual Learning and Its Impact on Education: Pre-COVID, COVID and Post-COVID Times

September 24, 2020

Prof Ajit Mohanty

Former Professor and ICSSR National Fellow, Jawaharlal Nehru University

The Medium of Thinking and Medium of Instruction: Why has Mother Tongue Based Education in India remained a Dream too Far?

Prof Minati Panda

Professor and Former Chairperson, Zakir Husain Centre for Educational Studies

The Psycho-political Fundamentals of Foundational Literacy and Language Policy in NEP2020: An Ensuing Battle with The Predatory Market

September 10, 2020

Dr Gayathri Vasudevan

Re-imagining Livelihoods

September 3, 2020

Prof Padma Sarangapani

Tata Institute of Social Sciences, Mumbai
Right to Education, Authority to Educate and the Covid Challenge

August 27, 2020

Prof P Balaram

Former Director, Indian Institute of Science, Bengaluru

Reflections on Higher Education in the Age of the New Education Policy and the Pandemic

August 20, 2020

Mr Subhankar Chakraborty, Mr Chegareddy FC, Mr Uday Gaonkar

Members of Bharat Gyan Vigyan Samiti

One Size Does Not Fit All: Equal Opportunity of Education During the CoVid-19 Pandemic

August 13, 2020

Prof Shekhar Seshadri

NIMHANS, Bengaluru

The Online Classroom Conundrum

August 6, 2020

Dr YS Rajan

Honorary Distinguished Professor, Indian Space Research Organisation, Bengaluru

Way Beyond the Three R's: India's Educational Challenge in the 21st Century beyond COVID 19

July 30, 2020

Dr T Ramasami

Former Secretary, Department of Science and Technology, Government of India

Covid 19 and Education: An Overview

July 23, 2020

**NIAS-CSP SVĀSTHYA-RASA-BODHINĪ
PUBLIC LECTURE SERIES****Dr Madhav M Deshpande**

Scope of Sanskrit Usage in India

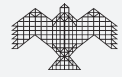
October 28, 2020

Dr Niranjan Upoor

Assistant Professor, Tripura University

Language, Meaning and Linguistic Theories

August 11, 2020



KAAVYAALAAP POETRY SESSIONS

**Mr Sudarshan, Mr Sundar Ramachandran,
Ms Usha Sridhar**

NIAS-CSP Kaavyaalaap Vaisistya
March 16, 2021

Mr Arjun Bharadwaj

Writer/Translator
*Poetry in Sculpture: Kāvya-silpa – NIAS-CSP
Kaavyaalaap Vaisistya*
February 23, 2021

Dr Anand Ahuja, Ms Kalyani, Ms Shree Nahata

NIAS-CSP Kaavyaalaap Vaividhya
February 9, 2021

Mr Naresh Keerthi

Assistant Professor, School of Linguistics and
Literary Studies, Chinmaya University, Kochi
NIAS-CSP Kaavyaalaap Vaisistya
January 12, 2021

**Ms Arpan Christy, Ms Pascal Leena and
Mr Ranjan Kamath**

NIAS-CSP Kaavyaalaap Vaividhya
December 22, 2020

Ms SK Mahathi

Carnatic Musician, Kerala
NIAS-CSP Kaavyaalaap Vaisistya
December 8, 2020

**Ms Shreeparna Samanta, Mr Shivendra Singh,
Ms Sanjna Girish**

NIAS-CSP Kaavyaalaap Vaividhya
November 24, 2020

Ms Gayathri Iyer

Bharathanatyam Dancer
*Paadanyasa – Poetry in Notion – NIAS-CSP
Kaavyaalaap Vaisistya*
November 3, 2020

Ms Aastha Bhatt, Mr Ganesan, Ms Sabna ES

NIAS-CSP Kaavyaalaap Vaividhya
October 20, 2020

Mr Shashi Kiran BN

Sanskrit Scholar
NIAS-CSP Kaavyaalaap Vaisistya
October 6, 2020

**Mr Rajesh Panhathodi, Mr Parimi Sree Ramanath
and Mr Soorya Hebbar A**

NIAS-CSP Kaavyaalaap Vaividhya
September 15, 2020

Mr Prabal Gupta

*The Bard and the Beautiful - NIAS-CSP Kaavyaalaap
– Vaisistya*
September 1, 2020

**Ms Anna George, Dr Chandana Sri, Ms Priyanka
Chakrabarty, Dr Shrikanth Krisnamurthy**

NIAS-CSP Kaavyaalaap Vaividhya
August 13, 2020

Dr Balram Shukla

The Mesmerizing World of Persian Poetry
NIAS-CSP Kaavyaalaap Session – Vaisistya
August 4, 2020

**Mr LP Kumar, Mr Manas Chhabra, Mr Neelakanth
and Mr Ranjan Kamath**

NIAS-CSP Kaavyaalaap Vaividhya
July 28, 2020

Mr Suhas Mahesh

Rhodes Scholar, Oxford University
*An Invitation to Prakrit Poetry – NIAS-CSP
Kaavyaalaap Vaisistya*
July 14, 2020

**Ms Amruthavalli VV, Mr Gopesh Jha, Ms Hanima
Nawaz and Ms Leena Pascal**

NIAS-CSP Kaavyaalaap Vaividhya
June 30, 2020

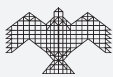
NIAS-CSP FRIDAY LECTURES

Mr Gopesh Jha

Archaeologist
*Somewhere between 'Archaic' and 'Modern':
Discussing Recent Advancements in Human Origins*
February 26, 2021

Mr Siddharth S

Doctoral scholar, NIAS
*Why Do We Think The Problem of Consciousness is
'Hard'?*
February 19, 2021



Dr CN Vishnuprasad

Associate Professor, Centre for Ayurveda Biology and Holistic Nutrition,
The University of Trans-Disciplinary Health Sciences and Technology (TDU)
Medical Pluralism for Future Healthcare – A Researcher's Perspective
February 12, 2021

Dr Sandeep Shastri

Vice Chancellor, Jagran Lakecity University, Bhopal
The State of the Indian Republic
January 29, 2021

Ms HL Sowmya Achar

Additional Commissioner of Income Tax at Centralised Processing Centre, Bengaluru
CPC – A Pioneering E-initiative of the Indian Tax Administration
January 22, 2021

Prof Francesca Ferrando

NYU-Liberal Studies, New York University
Existential Posthumanism: A Path of Self-Discovery
January 15, 2021

Dr Shankar Rajaraman

Postdoctoral Scholar, NIAS
Literature as Pedagogy-Insights from Indian Aesthetics
December 18, 2020

Dr PG Madhavan

CXO of Faceopen, Inc., an AI & Robotics company
Digital Twins Present and Future
December 4, 2020

Dr Ashwini NV

Founder and Director, MUKTHA Foundation
Interpersonal Abuse and Mental Health – Exploring Its Relationship
November 27, 2020

Mr Rajeev Balakrishnan

Founder and Designer, Aura Kalari, Bengaluru
Sustainable Living Design
November 20, 2020

Dr Shalini Dixit

Assistant Professor, NIAS
Reflections on The Inner Journey of a Teacher
November 13, 2020

Dr Nirmala Shankar

Consultant Neurosurgeon, Aster CMI Hospital, Bengaluru
Awake Brain Surgery
November 6, 2020

Mr Nitin Donde

Director, Animation Film Maker
Breathe in Life, Breathe out Music
October 23, 2020

Dr Manjusha Pisharody

Food Wisdom in Rituals, Culture and Traditions
October 16, 2020

Dr Sudarshan Iyengar

How Does Knowledge Come By? Big Data Answers!
October 9, 2020

Prof Marzenna Jakubczak

Professor of Philosophy at the Department of Philosophy and Sociology, Pedagogical University of Cracow, Poland
Who Undertakes Action and Why? The Problem of Psychophysical Agency in the Classical Sāṃkhya and Yoga
October 2, 2020

Mr Rakesh Kumar

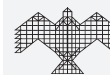
Research Associate, Consciousness Studies Programme, NIAS
A Wide-Eyed Man at the Capital of Black Magic (AABHICHARA)
September 25, 2020

Ms Aparna Vijayan

Assistant Professor, The Maharaja Sayajirao University of Baroda, Vadodara
How Free is Creativity? – Reflections on Cross-Disciplinary Possibilities Between Neuroscience and Indian Aesthetics
September 18, 2020

Ms Devashree Trivedi

Gujarati Language Consultant and Translator with UK-based GPS developers
Decoding the Vahi – Linguistic Examination of the Genealogical Record-Books in Gujarati
September 11, 2020

**Mr Guru Ranjan Mullaratt**

Kalaripayattu Master and Head, Kalari Gurukulam,
Bengaluru

*Kalaripayattu – Its Meaning, Importance and
Contemporaneity*

August 28, 2020

Ms Amala Poli

PhD Scholar, Western University, Ontario

On Life-Writing About Illness

August 21, 2020

Prof Dhananjay Singh

Jawaharlal Nehru University, New Delhi

*Emotion, Cognition and Consciousness: A Continuum
in Indian Philosophy and Aesthetics*

August 14, 2020

Dr Saurabh Todariya

Phenomenology of Body

August 7, 2020

Ms Lakshmi Menon

Designer and Serial Social Entrepreneur

Innovative Entrepreneurship: A Saga of Gratitude

July 31, 2020

Prof Anindya Sinha

NIAS

*Are Bonnet Monkeys Conscious? The Search for an
Animal Mind*

July 24, 2020

Ms Bageshree Trivedi

PhD Scholar, The Maharaja Sayajirao University of
Baroda, Vadodara

Parikramā: Circling the Telos

July 17, 2020

Dr Pushya A Gautama

Research Consultant, Consciousness Studies
Programme, NIAS

*Lessons Learnt from Traditional Indian Health
Systems: A Case Study on Ayurveda*

July 10, 2020

Ms S Priyanka

Cognitive Behavioral Therapy for “Normal” Being

July 3, 2020

Mr Harish Bhuvan

Founder and Chief Counselling Officer,
Compassionate Clowns, Bengaluru

A Mask to UnMask

June 26, 2020

Mr Rohan Somji

Georgetown University

Why Do We Think?

June 19, 2020

NIAS TUESDAY LECTURE SERIES**Amb Rakesh Sood**

India's Ambassador to Afghanistan (2005-08)

Afghanistan: One Year after the US-Taliban Deal

March 2, 2021

Mr Vijay Gokhale

Former Foreign Secretary, Ministry of External
Affairs, Government of India

China and the Post-COVID World Order

October 6, 2020

Dr Matt Rosenstein

Director, Global Education and Training, University
of Illinois, Urbana-Champaign

Making Sense of Anger and Protests in the US

September 29, 2020

Prof AK Pasha

Centre for West Asian Studies, Jawaharlal Nehru
University, New Delhi

*The Abraham Accords: Will It Lead to Peace in the
Middle East?*

September 22, 2020

Dr Salma Malik

Department of Defence and Strategic Studies,
Quaid-e-Azam University, Islamabad

The Gender Challenges in Pakistan

September 8, 2020

Amb Sanjay Singh

Former Secretary (East), Ministry of External
Affairs, Government of India

*The Big Picture in the Middle East: Looking Beyond
Israel, UAE, and Palestine*

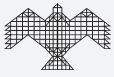
August 25, 2020

Dr Nishchal N Pandey

Director, Centre for South Asian Studies,
Kathmandu

*India Through the Neighbourhood's Lens: Views from
Nepal*

July 21, 2020



Amb PS Raghavan

Chairman, National Security Advisory Board,
Government of India
India in the Post-COVID World Order
(In Association with Stella Maris College, Chennai
and University of Mysore)
June 30, 2020

DEBATING HERITAGE – FRIDAY LECTURE

Dr Queenbala Marak

Associate Professor, North-Eastern Hill
University, Shillong, Meghalaya
From Sacred to Profane: The Changing Nature of Rice
February 5, 2021

Ms Nupur Tiwari

PhD Scholar, Department of Humanities and Social
Science, Mohali, Punjab
*Spatial Distribution of Microlithic Occurrences in the
Central Narmada Basin: Implications on Open Air
Site Formation*
November 13, 2020

Ms Diya Mukherjee

PhD Scholar, Deccan College Post Graduate
Research Institute, Pune
*A Sneak Peek into a Lost Heritage: Ancient Copper
Smelting*
November 6, 2020

Ms Apurva Sinha

PhD Scholar, NIAS
Dimensions of Built Heritage in India
October 30, 2020

Dr Prachi Joshi

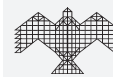
Research Intern, Sharma Centre for Heritage
Education
*Palaeolithic Cultural Heritage of the Wainganga
Basin, Maharashtra*
October 23, 2020

Dr Sharada Channarayapatna

Assistant Professor, Archaeological Sciences Centre,
Indian Institute of Technology Gandhinagar
*Osseous Heritage: A Case Study of Episodic Human-
Animal Interaction at the Prehistoric Cave Site of
Lazaret (Nice, France) As Discerned through the
Taphonomic Lens*
October 9, 2020

Dr Mokshada M Salunke

Trivandrum International School, Korani,
Thiruvananthapuram
*Palaeolithic Cultural Heritage of the Middle Godavari
Basin, Telangana*
September 18, 2020



WEDNESDAY DISCUSSION MEETINGS

NIAS Wednesday Discussion Meetings is one of the outreach events that have continued since the inception of the Institute. The faculty of the Institute meets every Wednesday for academic discussions after a lecture delivered by a member of the faculty. These Wednesday meetings also serve as a forum for invited guest speakers to deliver lectures on subjects of their choice.

Ms Mythrayi Harshavardhan, Project Associate, School of Humanities, NIAS

Ms Ekta Gupta, PhD Scholar, School of Humanities, NIAS

Creatures Boundless within a Boundary – A Glimpse into the World of Birds and Some Peculiar Insects at NIAS

March 31, 2021

Dr Nibedita Rath, Scientific Director, Open Source Pharma Foundation, (OSPF)

Dr Hirennappa B Udnur, Consultant, Columbia Asia, Baptist hospital

The Clock is Ticking: It's Time to END TB

March 24, 2021

Dr Debosree Banerjee, Assistant Professor, School of Social Sciences, NIAS

Poverty and Deprivation in India

March 17, 2021

Dr Srikumar M Menon, Associate Professor, School of Humanities, NIAS

The Buddhist Art of Kanaganahalli, with an Emphasis on Elephant Sculptures

March 10, 2021

Cmdr Kartik Krishnan, Adjunct Professor, International Strategic and Security Studies Programme, NIAS

Comprehensive Maritime Security in IOR: Role of IFC-IOR

March 3, 2021

Dr Amit Mukherjee, Assistant Professor, International Strategic and Security Studies Programme/Conflict Resolution and Peace Research Programme, NIAS

Methods in Military Geosciences: Application for Investigating Eluru Outbreak

February 24, 2021

Dr PG Diwakar, ISRO Chair Professor, NIAS

Geospatial Analytics – Typical Contemporary Solutions for Governance

February 17, 2021

Mr Navneet Bhushan, Founder, Director, Craftiti Consulting Private Limited, Bengaluru

Future of Warfare – Search for New Theory – A View from 30 Years of Mathematical and Computational Modeling of War

February 10, 2021

Prof Sharada Srinivasan, Professor, School of Humanities, NIAS

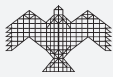
Hampi as Cultural and Geological Landscape: Technical and Digital Perspectives

February 3, 2021

Dr Priyadarshini Singh, Research Fellow, State Capacity Initiative, Centre for Policy Research, New Delhi

India and Its Nationhood-Grassroots Nationhood as Conceptual Frames

January 27, 2021



Ms Sneha Gutgutia, PhD Scholar, NIAS

More-than-human Methodologies in Ethnography of Precarity in Delhi

January 6, 2021

Dr Harikrishna M, Former Post-Doctoral Associate, Energy and Environment Programme, NIAS

Integrated Approach to Development and Environment in the Power Sector

December 23, 2020

Amb V Ashok, Adjunct Professor, NIAS

Ensuring India's Water Security – The Five R's

December 16, 2020

Dr Rudrodip Majumdar, Assistant Professor, Energy and Environment Programme, NIAS

China's Domination of the Global Solar PV Industry – A Case Study of Egypt's Benban Solar Park using Satellite Imagery

December 9, 2020

Prof PM Soundar Rajan, Visiting Professor, International Strategic and Security Studies Programme, NIAS

Challenges of Cyber Threat to Aerospace, Defence, and Infrastructure Sectors

November 25, 2020

Ms Shubhangi Srivastava, PhD Scholar, NIAS

Sensing the City: Nonhuman Lifeworlds

November 18, 2020

Prof D Suba Chandran, Professor and Dean, School of Conflict and Security Studies, NIAS

J&K, One Year Later: Is it Time for the Union Government to Consider an Exit Strategy?

November 11, 2020

Dr M Mayilvaganan, Associate Professor, International Strategic and Security Studies Programme, NIAS

Post-Election Sri Lanka: Will Rajapaksa stay as the Head of State?

October 28, 2020

Amb Syed Akbaruddin, Adjunct Professor, NIAS

India's Quest for UNSC Membership: Issues and the Way Forward

October 21, 2020

Dr Tarun Menon, Assistant Professor, School of Humanities, NIAS

Pursuing the Undesirable: A Defence of Value-Free Science

October 14, 2020

Ms Malini Shankar, Director, Digital Discourse Foundation

Wildlife Journalism – A Relatively New Field of Specialisation in Journalism in the Age of Liberalised Media

October 7, 2020

Dr Sudha Gopalakrishnan, Executive Director, SAHAPEDIA

BiJA: The Seed of Creation: An Exploration through Indian Life, Thought and Art

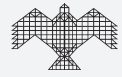
September 23, 2020

Dr Narayan Sharma, Assistant Professor, Department of Environmental Biology and Wildlife Sciences

Cotton University, Guwahati and Adjunct Faculty, NIAS

Primates, Forests, People and Economy of the Upper Brahmaputra Valley: Is Long-term Coexistence Possible?

September 16, 2020



Mr Sayan Banerjee, PhD Scholar, NIAS

Draft EIA Notification 2020 and Its Potential Impact on the Northeastern States of India
September 9, 2020

Dr Shalini Dixit, Assistant Professor, School of Social Sciences, NIAS

Education for Sustainable Development in India: Curricula, Teachers and Classrooms
September 2, 2020

Ms Namita Aavriti, Co-Manager, Women's Rights Programme, Association for Progressive Communications

Ms Smita Vanniyar, Second Lead, Digital Projects, Point of View, Mumbai
Ethics and The Digital Platform: A Panel Discussion
August 26, 2020

Prof Anitha Kurup, Head, Education Programme, NIAS

Dr Shivali Tukdeo, Associate Professor, Education Programme, NIAS
The National Education Policy 2020: Two Responses
August 19, 2020

Dr Nibedita Rath, Scientific Director, Open Source Pharma Foundation

Open Source Philosophy during the Covid Pandemic
August 12, 2020

Dr Rudrodip Majumdar, Assistant Professor, Energy and Environment Programme, NIAS

Dry Sludge Hygienisation – An Indigenous Technological Intervention for Urban Areas to Deal with Incursion of COVID-19 Viral Particles in Wastewater
August 5, 2020

Prof V Bhujanga Rao, ISRO Chair Professor, NIAS

CoVID-19: Aligning Innovative Technologies with Needs and Opportunities
July 29, 2020

Dr Shalini Dixit, Assistant Professor, NIAS

Perception of Social Change amidst Pandemic: A Social Psychological understanding
July 22, 2020

Prof M Sai Baba, TV Raman Pai Chair Professor, NIAS

Risk Communication Strategies during COVID Health Pandemic: How Did We Do?
June 24, 2020

Dr Tejal Kanitkar, Associate Professor, Energy Environment Programme, NIAS

The COVID-19 Lock-down in India: Impacts on the Economy and the Power Sector
June 17, 2020

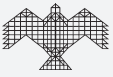
Prof Anitha Kurup, Professor, NIAS

Institutional Response to COVID 19: Review of Higher Education in India
June 10, 2020

Dr Nithin Nagaraj, Mr Pranay S Yadav, Harikrishnan NB

Consciousness Studies Programme, NIAS
Learning from the Coronaviruses: Genome Classification and Complexity
June 3, 2020

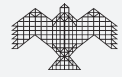
Prof Anindya Sinha is the Coordinator of the Wednesday Discussion Meetings.



ASSOCIATES' PROGRAMME

NIAS shares its experiences, both intellectual and cultural, with a select group of distinguished persons. As Associates, they enjoy certain privileges, including access to the NIAS library, invitations to all major events and opportunities to dine with the NIAS faculty and distinguished visitors. As of now we have 125 distinguished personalities as our associates. NIAS organises regular associates' meetings, which include lectures, plays, and performing arts events.

Due to the on-going pandemic, Associates' Programme was not organised during the year 2020-21.



LITERARY, ARTS AND HERITAGE FORUM

The Literary, Arts and Heritage Forum aims to be an innovative platform for occasional lectures on diverse topics of cultural interest including literature, the arts and aspects of heritage. Major events and public lectures were held over the past year.

Dr Meenakshi Venkataraman

Chair, South Asia, Environmental Sustainability Rotary Action Group

Insect Apocalypse

March 18, 2021

Dr Subbaraman

Former Director, INTACH, Chitrakala Parishat Art Conservation Centre

Conservation of Indian Murals

March 2, 2021

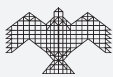
Dr Benoy K Behl

Adjunct Professor, NIAS

Hindu Deities and Sanskrit in Japan (Talk and Film Screening)

November 24, 2020

Prof Sharada Srinivasan and Prof Sangeetha Menon are the Coordinators of the NIAS Literary, Arts and Heritage Forum.



LIBRARY

During 2020-21, NIAS Library responded to the restrictions brought about the pandemic situation, by providing remote access to its digital resources. The remote access facility was extended to all faculty, students and research staff during April-May 2020. Remote access was provided to relevant resources from different publishers such as World Scientific, Sage (Research Methods Online), Cambridge University Press, Bloomsbury and Springer. In addition, alerts were sent out about open access resources from Project Muse, Oxford Research Encyclopaedias etc. which were found to be useful for researchers. The Library also continued its subscription to select print journals. When the library reopened to physical access post-lockdown, only partial seating was permitted within the premises, in deference to the “new normal” social distancing norms.

During the year 2020-21, 301 print acquisitions were catalogued and displayed taking the total to 18252 books. Eleven Kannada books were added taking the total collection in Kannada to 581. The Library also received 140 donations which includes books from Prof Sreekantan’s personal collection taking the total of donated books to 2000.

Electronic Resources

The Library continues its subscriptions to Sage Social Science Collection of Indian journals, Taylor and Francis Special Collection, American Economic Association journals, JSTOR and a few individual titles from reputed publishers. Two new journals were included during the year – *Philosophy Now* and *Asian Journal of Water, Environment and Pollution*. Subscription to datasets includes *EPWRF India Times Series* with 21 datasets and *indiastat.com*.

Publication Activity

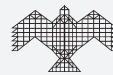
The Library continued to support the publication activity of NIAS by providing guidelines for format and printing of publications. The publications from faculty and students were routinely uploaded on the NIAS website and institutional repository.

Plagiarism Software

The support service for plagiarism detection in papers, theses, proposals and answer papers of qualifier exams was provided using Turnitin software. The new batch of students were provided with Turnitin accounts and a webinar was conducted for the students to familiarize them with the work flow of Turnitin.

Website Activities

The NIAS webpages were updated on a routine basis. In addition, the Library also coordinated and provided active support to website related activities particularly with regard to ongoing efforts of redesigning the NIAS website and website maintenance.



PROFESSORS EMERITUS



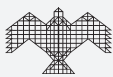
Dr K Kasturirangan

Dr K Kasturirangan was the Director of the National Institute of Advanced Studies during 2004-2009. He is presently Chairman, Inter-University Centre for Astronomy and Astrophysics (IUCAA), Chancellor, Central University of Rajasthan, Chairman, Public Affairs Centre, Bengaluru, Chairman, Karnataka Knowledge Commission and Member, Atomic Energy Commission.



Prof VS Ramamurthy

Prof VS Ramamurthy was the Director of the National Institute of Advanced Studies during 2009-2014. His current research interests span the areas of managing public perceptions of public good and public risks associated with emerging technologies, identification and mentoring of children with unusual learning capabilities and science and technology communication.



CHAIR PROFESSORS

SCHOOL OF CONFLICT AND SECURITY STUDIES



V Bhujanga Rao
ISRO Chair Visiting
Professor (*till*
September 14, 2020)

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Joined NIAS on: April 20, 2016

Research Areas: Medical Implants/Devices; Grassroots Innovation; Defence Manufacturing Technologies; Acoustics, Science, Technology and Innovation.

Research Contributions

As Chief Designer of Indigenous Cochlear Implant Programme of DRDO, Prof Bhujanga Rao was involved in multi centric human clinical trials for the project at four reputed hospitals. As PI, he was also involved with the study Development of Secure Ultrasound Scanner for Foetus Evaluation without Gender Determination. This is a joint EPSRC, UK sponsored project with Cranfield University, Indian Institute of Science and St John's Hospital. Prof Rao has also been involved with the Frugal Innovation Nurturing Programme of NIAS and INAE as Chairman, 2018-2023. A total of 6 projects were completed under this programme over the course of the last year. They include: (i) Intelligent Glasses for the Blind, MVJ College of Engineering, Bengaluru (ii) Walnut Peeler/Cracker, Indian Institute of Science, Bengaluru (iii) Manual Paddy Transplanter, BMS College, Bengaluru (iv) Laddu Making Machine, MVJ College of Engineering, Bengaluru (v) Solar Iron on Cart, RVS College of Engineering, Bengaluru, and (vi) Automated Agri Pesticide Sprayer, MVJ College of Engineering, Bengaluru. As Founder and Current President, Condition Monitoring Society of India, Prof Rao organised a virtual two-day International Conference (ICCM 2020) jointly with TATA Steel at Jamshedpur during January 20-21, 2021. He also edited two issues of the quarterly newsletter, SPACE. Apart from these projects, Prof Rao also submitted a proposal to PMO (Technology Cell) for conducting an Executive Training Programme on Infrasonic Engineering for Strategic Applications for the benefit of their scientists/engineers.

Honour

Nominated as Member, Karnataka State Government Governing Council on Science and Technology.

Lectures

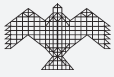
- Inaugural Keynote Address, International Conference on Research Trends in Deep Learning, Big data and IoT (ICRDBI-2021), sponsored by AICTE, conducted by the Department of Computer Science and Engineering, Siddharth Institute of Engineering and Technology, Puttur, February 26, 2021.



- Inaugural Keynote Address on Condition Monitoring in Industry 4.0 Environment, International Conference on Condition Monitoring (ICCM-21) organised by TATA Steel and CMSI, January 21, 2021.
- Digital Servitization – A Strategy to Stimulate the Manufacturing Sector, Project Managers Global Summit 2020, organised by IPMA-India at Delhi, December 14-15, 2020.
- Project Management in Industry 4.0: Embracing Next Generation Technologies, Address at the Young Crew India Managers Meet, organised by International Project Management Association, The Netherlands, November 21, 2020.
- Distinguished Lecture Series on Servitization through Digital Transformation in Manufacturing Sector, CPDM, Indian Institute of Science, August 27, 2020.

Memberships

- Fellow, Indian National Academy of Engineering.
- Fellow, Andhra Pradesh Academy of Science.
- Fellow, Condition Monitoring Society of India.
- Fellow, Indian Institution of Plant Engineers.
- Fellow, Acoustical Society of India.
- Chairman, Research Advisory Council, National Innovation Foundation/DST, 2021.
- Chairman, National Committee on Mechanical Engineering, Institute of Engineering, 2015-2022.
- Chairman, Steering Committee on Inclusive Manufacturing, NIAS, 2018 onwards.
- Member, National Management Council, International Project Management Association – India, 2018-2023.
- Member, Research Management Council, National Innovation Foundation.
- Member, Governing Council on Science and Technology, Government of Karnataka, Under Chief Minister Chairmanship, 2021 onwards.
- Founder and Current President, Condition Monitoring Society of India, 2003-.
- Member, R&D Board, Ministry of Earth Sciences, Government of India, 2016-.
- Member, Deep Submersible National Project Review Committee, NIOT, GoI, 2017-.
- Honorary Professor, Department of Mechanical Engineering, Andhra University.



International Strategic and Security Studies Programme

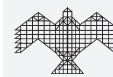


S Chandrashekar
JRD Tata Chair Visiting
Professor

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Joined NIAS on: July 2, 2004

Research Areas: Space, Business Corporate and National Strategies, Strategic Studies, Missiles, Nuclear Weapons, War and Deterrence, Technology and Development, Technological Competitiveness, Game Theory and Applications, Social Networks and Applications, Technology and Business, Innovation, Competitive Benchmarking, Crisis Management in Complex Systems.



SCHOOL OF HUMANITIES



Jahnvi Phalkey
Sir Ashutosh Mukherjee
Chair Visiting Professor
(till October 14, 2020)

Joined NIAS on: October 15, 2019

Research Areas: History of Science and Technology; Science and the State; Public Engagement with Science.

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Shailaja D Sharma
S Radhakrishnan Chair
Visiting Professor

Joined NIAS on: July 1, 2020

Research Areas: History and Philosophy of Indic Mathematical and Computational Tradition.

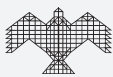
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Research Contributions

A book titled *The Computation Meme: Computational Thinking in the Indic Tradition*, (jointly edited with K Gopinath, Department of CSA, Indian Institute of Science), has been accepted for publication by IISc Press,

Other Affiliation

School of Arts and Sciences (Mathematics), Azim Premji University, Bengaluru.



SCHOOL OF NATURAL SCIENCES AND ENGINEERING



PG Diwakar
ISRO Chair Professor

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Joined NIAS on: November 4, 2020

Research Areas: Digital Image Processing/Geospatial Technology/Remote Sensing Applications.

Research Contributions

Published a NIAS Policy Brief on 'Satellite Remote Sensing Data Policy: Benefits of Free and Open Data' and submitted a few papers on Machine Learning Architecture, and Remote sensing Applications for publication, in peer reviewed journals.

Honour

ISRO Performance Excellence Award in March 2021.

Lectures

- Satellite Data and Geospatial Analytics, Seminar on Data and Video Analytics, Ambedkar Institute of Technology, Bengaluru, March 25, 2021.
- Talk during the Workshop on Use of Bhuvan and WebGIS Tools for Monitoring of Tree Plantations and Time Series Analysis, Isha Foundation, Coimbatore, March 11, 2021.
- Geospatial Technologies for Sustainable Development – Indian Context, NIAS-DST Online Training Programme on Science and Technology: Global Developments and Perspective, February 16, 2021.
- Geospatial Analytics – Typical Adaptation in India, talk to NITK Faculty and Researchers, as part of SetConnect NIT FDP programme organised by SetConnect, February 9, 2021.
- Geospatial Technology for Agricultural Sector in India, as part of a Webinar on Use of Drones for Agriculture Purposes, organised by IISc and BIS, January 29, 2021.
- Indian Space Programme and Satellite Data Processing, Guest of Honor Lecture, Alvas Engineering College, Moodubidire, December 15, 2020.
- Bhuvan Geoportal – A unique Indian WEBGIS, , Board for IT Education Standards (BITES) as part of Distinguished Guest Lecture Series, addressing student community and educational institutions, November 18, 2020.
- Indian Earth Observation Satellites and Applications, Board for IT Education Standards (BITES) as part of Distinguished Guest Lecture Series, addressing student community and educational institutions, November 14, 2020.



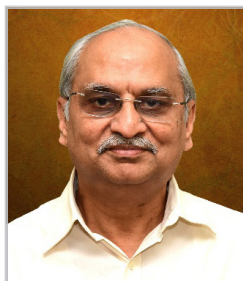
Memberships

- Member, Governing Body for Board for IT Education Standards (BITES), Bengaluru.
- Member, National Committee for India-IIASA Programme, TIFAC, New Delhi.



Vinay Kumar Dadhwal *Joined NIAS on:* March 16, 2020
Indira Gandhi Chair
Professor
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Science Communication Programme



M Sai Baba
TV Raman Pai Chair
Visiting Professor (*till December 9, 2020*)
Honorary Visiting Professor
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Joined NIAS on: October 6, 2017

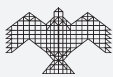
Research Areas: Science Communication

Research Contributions

Lead role in the activities relating to the Science Communication programme. Prof Baba has also been involved with the Risk Communication project, a human reliability project and a study on communicating ancient Indian knowledge systems to school students.

Lectures

- Learning, Teaching and Mentoring: The Challenge, Workshop on Pedagogy, Directorate of Transferable Skills and Leadership Development, Ramaiah University of Applied Sciences, Bengaluru, March 24, 2021.
- Need for Study and Research on Indian Knowledge System (IKS) for its Contemporary Relevance, Member of the Panel Discussion, National Seminar on Need for Study and Research on Indian Knowledge System (IKS) for its Contemporary Relevance, Ramaiah University of Applied Sciences, Bengaluru March 19, 2021.



- Managing R&D Institutions: The Challenge, National Management Day, Faculty of Management and Commerce, Ramaiah University of Applied Sciences, Bengaluru, February 20, 2021.
- Doing Research and Communicating: The Challenge of Doing Well, AICTE Sponsored Online Short-Term Training Programme on 'Science: How it is Documented, Communicated and Published', National Institute of Technology Nagaland, Dimapur, Nagaland, February 19, 2021.
- Science and Risk Communication, Interaction with Researchers at NSU, Singapore and NIAS Science Communication Group, February 17, 2021.
- Why Science Should be Communicated to the Public, AICTE Sponsored Online Short-Term Training Programme On "Science: How it is documented, communicated and published", National Institute of Technology Nagaland, Dimapur, Nagaland, February 16, 2021.
- Learning, Teaching and Mentoring: The Challenge, Workshop on Pedagogy, Directorate of Transferable Skills and Leadership Development, Ramaiah University of Applied Sciences, Bengaluru, February 4, 2021.
- Human Reliability: Goals, Challenges and Strategies, Faculty of Computer Science, Ramaiah University of Applied Sciences, Bengaluru, February 3, 2021.
- Research Data Management, Chairman and Anchor of the Session, Technical Session 4, Library Technology Conclave, LTC2021 January 29, 2021.
- Human Reliability: Goals, Challenges and Strategies, Faculty and Students of Faculty of Management and Commerce, Ramaiah University of Applied Sciences, Bengaluru, January 20, 2021.
- Science and Technology Communication: Paving the Path to Atmanirbhar Bharat and Global Welfare, delivered talk and chaired the valedictory session, VIGYANIKA 2020, 6th India International Science Festival 2020, organised by the Ministry of Science and Technology, and Ministry of Earth Sciences (MoES) in association with Vijnana Bharati (VIBHA), December 24, 2020.
- The Challenge of Providing Energy Security, One Day Webinar on 'Nuclear Energy-Challenges and Opportunities for Chemical Engineers', Department of Chemical Engineering, NIT Rourkela, December 23, 2020.
- A Way Forward for Promoting Nuclear Security Education in Indian Academic Institutions, Member of the Discussion Forum, organised by PDP, India and PNPL, USA, December 13, 2020.
- Understanding the Threat, Lead talk on Review, WINS Academy certification training course: Nuclear Security for Scientists, Technicians and Engineers (STE), Member of the Focus Group on the WINS Academy Training Course for STE, November 26, 2020.
- Access to the Information Resources: The Transition to the Digital Era, "Open Access Week", National Virtual Conference, Department of Library and Information Science, Central University of Tamil Nadu, Thiruvallur, October 19, 2020.
- HRP Challenges: Identify the Components for Implementing in the Industries of National Importance, Second Meeting of the Core Group on Human Reliability Programme in Industries of National Importance (jointly organised by NIAS and Texas A&M University-US), NIAS, October 16, 2020,
- Summary of the Discussions on the two previous meetings on Human Reliability Programme in Industries of National Importance, Second Meeting of the Core Group on Human Reliability Programme in Industries of National Importance, (jointly organised by NIAS and Texas A&M University-US), NIAS, October 14, 2020.
- Artificial Intelligence and the Society, School of Engineering and Applied Science, Ahmedabad University, September 9, 2020.
- Providing Energy Security of India: The Challenge, Presentation to Students of the Executive Management Programme, NTPC School of Business, Noida, August 31, 2020.
- Repositioning Access to the Information Resources in the Digital Era: Transition to becoming Knowledge Managers, Session: Reinventing Library Services in the Digital Age, Reinventing Excellence in Librarianship, 3rd LIS Academy National Conference, August 28, 2020.

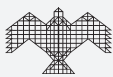


Other Activities

- Chaired the Session on Digital Libraries and Research Data Management, Prof Prasenjit Mitra, Pen State University, USA, LCT20201, Pre-Conclave Lecture-2, November 27, 2020.
- Member of the Panel Discussion on The Relationship of Insider Threats and Physical Protection Systems to Cyber Security, organised by WINS Academy In collaboration with the Amity Institute of Nuclear Science and Technology (AINST), Amity University Noida and Indian Youth Nuclear Society, September 24, 2020.
- Member of the Panel Discussion on Diplomacy for Science and Technology to Manage COVID-19 Pandemic, Ramaiah Public Policy Center, Bengaluru, July 24, 2020.
- Chaired and Moderated the Panel Discussion on Innovating Biotechnology for the Future, Session-4, Webinar and Panel Discussion Series on the theme Innovation in the time of crisis stepping into a New Normal World, an Avantgarde Initiative, July 5, 2020.
- Chaired and Moderated the Panel Discussion on Into the Data Driven New World New Normal World, Session-3, Webinar and Panel Discussion Series on the theme Innovation in the time of Crisis Stepping into a New Normal World, an Avantgarde Initiative, June 28, 2020.
- Chaired and Moderated the Panel Discussion Innovation and Commercialising Innovations, Session-2, Webinar and Panel Discussion Series on the theme Innovation in the Time of Crisis Stepping into a New Normal World, an Avantgarde Initiative, June 21, 2020.
- Implementing and Communicating Innovations, Member of the Panel, Session-1, Webinar and Panel Discussion Series on the theme Innovation in the Time of Crisis Stepping into a New Normal World, an Avantgarde Initiative, June 14, 2020.

Memberships

- Member, Expert committee to review Policy Research Centres established by DST.
- Member, Expert Committee, UGC-SERO, Hyderabad, Constituted by UGC, Government of India.
- Member, Editorial and Scientific Committee, International Journal of Nuclear Knowledge Management, WONUC.
- Member, Advisory Board, Governing Council of Hindustan Institute of Maritime Training Group of Educational Institutions, Chennai.
- Member, Editorial Board & Journal Advisory Board, 'Frontiers in Science Technology and Application', (<http://scfrontiers.com>).



Energy and Environment Programme



Sudha Mahalingam
Raja Ramanna Chair
Professor

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Email: sudha.mahalingam@nias.res.in

Joined NIAS on: August 30, 2019

Research Areas: Energy Regulation, Energy Security, Energy Governance, Electricity Policy.

Other Activities

- Prof Mahalingam taught a one credit course on Economic Regulation – Theory and Practice for NIAS doctoral students, from September – December 2020. She also finalised the syllabus of a credit course to be offered next semester on India's Energy Security.

Energy and Environment Programme



DK Srivastava
Homi Bhabha Chair
Professor

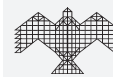
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Joined NIAS on: August 5, 2019

Research Areas: Electromagnetic and Heavy Flavour Probes of Quark-Gluon Plasma.

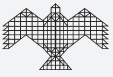
Research Contributions

In a first calculation of its kind, the directed flow coefficient (v_1) of photons from asymmetric Cu+Au and symmetric Au+Au collisions at 200A GeV at Relativistic Heavy Ion Collider is found to be non-zero, significantly large, completely dominated by QGP radiation, and comparable as a function of transverse momentum (p_T) for the two different colliding systems. In addition, the v_1 is found to be negative in the region $p_T < 2.5$ GeV unlike the higher photon flow coefficients which are always positive as a function of p_T .



Lectures

- Climate Change and Energy Options for a Sustainable Future, University of Sikkim, March 8, 2021.
- Climate Change and Energy Options for a Sustainable Future, Central University of Jharkhand, Ranchi, February 28, 2021.
- Evolving Methods of Teaching for the 21st Century, Ramaiah University of Applied Sciences, Bengaluru, February 4, 2021.
- Climate Change and Energy Options for a Sustainable Future, 2nd Sir CV Raman Lecture Series, University of Bodoland, Kokrajhar, Assam, January 28, 2021.
- Risk Perceptions of Plague Through Millennia, NIAS, January 5, 2021.
- Climate Change and Energy Options, North East Students' Conclave, India International Science Festival 2020, December 25, 2020.
- The Era of First Element, Alice-India Workshop on Quark Gluon Plasma, IIT Indore, November 8, 2020.
- Why Should You Do Basic Research?, Pubna University of Science and Technology, Pabna, Bangladesh, October 18, 2020.
- Education and Research During and After Pandemic, Guwahati University, October 16, 2020.
- Climate Change and Energy Options for a Sustainable Development, Rajiv Gandhi Institute of Petroleum Technology, Jais, Amethi, October 14, 2020.
- Liberation of Quarks and Gluons Confined since the Big Bang, ALICE-India Webinar, Bose Institute, Kolkata, September 28, 2020.
- What Are We Made Of? Or Basic Building Blocks of Matter", National Institute of Technology, Tiruchirapalli, August 22, 2020.
- Unshackling of Quarks and Gluons and Creation of Quark-gluon Plasma, TIFR, Mumbai, July 29, 2020.
- Diplomacy for Science & Technology to Manage COVID-19 Pandemic at Ramaiah Public Policy Center, Bengaluru, July 24, 2020.
- Climate Change and Energy Options-V, DR College, Golaghat, Assam, July 25, 2020.
- Climate Change and Energy Options-IV, DR College, Golaghat, Assam, July 24, 2020.
- Climate Change and Energy Options-III, DR College, Golaghat, Assam, July 23, 2020.
- Climate Change and Energy Options-II, DR College, Golaghat, Assam, July 22, 2020.
- Climate Change and Energy Options-I, DR College, Golaghat, Assam, July 21, 2020.
- Collaboration in Science and Education with China, Chennai Centre for China Studies, Chennai, July 17, 2020.
- Climate Change and Energy Options for a Sustainable Future, Invited Webinar (Public Lecture) at Indian Institute of Technology, Indore, June 30, 2020.
- Climate Change and Energy Options for a Sustainable Future, Invited Webinar at Central University of South Bihar, Gaya, June 13, 2020.
- Climate Change and Energy Options for a Sustainable Future, Invited Webinar for National Webinar on National Symposium Role of Science and Technology in Present Scenario: A Sustainable Development of Nation, Bareilly College, Bareilly, May 31, 2020.
- Climate Change and Energy Options for a Sustainable Future, Invited Webinar for Two Day International Symposium on Role of science in the post Covid-19 Era, Gujranwala Guru Nanak Khalsa College, Ludhiana, May 29, 2020.
- Climate Change and Energy Options for a Sustainable Future, Webinar for Amity University, NOIDA, April 10, 2020.

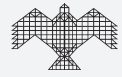


Memberships

- Member, International Advisory Committee, 10th International Conference on Hard and Electromagnetic Probes of High Energy Nuclear Collisions, 2020, Texas A&M University, USA.
- Member, Raja Ramanna Fellowship Programme Review Committee, DAE, Mumbai.
- Editorial Board Member, Pramana, Journal of Physics.
- Editorial Board Member, Scientific Reports, Nature Group of Publications, U.K.
- President, Indian Physical Society.
- Member, Research Advisory Committee, Indian Institute of Technology, Ropor.
- Member, Council Department of Physics, University of Delhi.
- Member of several PhD examination committees and evaluations of research proposals.

Other Activities

- Chaired a session on Electroweak Probes of Quark Gluon Plasma, 10th International Conference on Hard and Electromagnetic Probes of High Energy Nuclear Collisions, 2020, Texas A&M University, USA.



FACULTY MEMBERS

Members of the Conflict Resolution and Peace Research Programme



D Suba Chandran
Professor and Dean
School of Conflict and
Security Studies

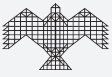
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Joined NIAS on: November 18, 2015

Research Areas: Peace Research Initiative (IPRI), NIAS Science Diplomacy, Global Politics.

Lectures

- Panel Discussion on S&T Bridge between Tashkent and Bangalore: Five Strategies, The Second Uzbek-Indian Forum of Think Tanks, ICWA Dialogues, Delhi, February 23, 2021.
- Contemporary World Order, Department of International Relations, University of Mysore, February 15, 2021.
- Security Scenario in the Indian Sub-continent and Implications on National Security, CRPF, Delhi, February 9, 2021.
- The New American President: Likely Priorities and Their Implications for India, Jain University, January 21, 2021.
- 'Challenges to Economic Cooperation' in New Approaches to Multilateral Economic Cooperation in the SCO Region Under the Pandemic Conditions, as a part of the ICWA-SCO Dialogue, Delhi, September 26, 2020.
- Pakistan: Psyche and Mindset, College of Air War, Secunderabad, August 19, 2020.
- India and the Post-COVID World Order, Kristu Jayanti College, Bengaluru, June 19, 2020.



Anshuman Behera
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School of Conflict and
Security Studies

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Joined NIAS on: January 31, 2014

Research Areas: Maoist Conflict in India, Governance, Development, and Conflict, Religious Radicalisation in India, Political Process in South Asia, Political Theory.

Academic Courses

Introduction to Social Conflict, NIAS Doctoral Program, August – December 2020.
Qualitative Methods in Social Science Research, NIAS Doctoral Program, August – December 2020.

Lectures

- 'How (not) to Understand Radicalization', Central University, Gujarat, March 11, 2021.
- S&T Development and Social Conflict, NIAS, February 9, 2021.
- 'Left Wing Extremism (LWE)-Challenges and Opportunities, Defence Services Staff College, Wellington, Ooty, January 29, 2021.
- India and the SDGs: The Way forward, Janata College, Satmile, Dhenkanal, January 19, 2021.
- 'Mao to Maoism: The Indian Path' at Madras Christian College, Chennai on October 5, 2020.
- KC Bhattacharjee's 'Swaraj in Ideas', NIAS-India Thought Collective, September 28, 2020.
- Trans-Border Disputes in South Asia, BB College, Chandikhol, Odisha, September 13, 2020.
- Domestic Politics, Territorial Conflicts and Bilateralism in South Asia, GM University, Sambalpur, August 1, 2020.

Memberships

- Member, Board of Studies, Department of International Relations and History, Christ Deemed to be University.
- Lifetime Member, Indian Social Science Association.



Amit Mukherjee
Assistant Professor
School of Conflict and
Security Studies

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Joined NIAS on: October 3, 2017

Research Areas: S&T in Conflict Studies, Maritime Disputes and Conflicts; Geo-computation Modeling and Simulation Methods in Strategic Studies; Methods in Military Geosciences; Transboundary Geographical Phenomena and Impact on India; GIS for National Security.

Academic Courses

Disaster Management in India and NBC warfare, Masters Course in Defence and Strategic Studies, KBC North Maharashtra University, Jalgaon. October 2020 – October 2021.

Honour

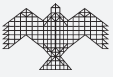
Nominated as a member of the Strategic Technologies thematic group for the STIP 2020 Policy initiative, a joint effort by the Office of Principal Scientific Adviser and the Department of Science and Technology, Government of India.

Lectures

- Foundation and Principles of Communication and Soft Skills, UGC-Human Resource Development Training Programme, Marathwada University, Aurangabad, February 6, 2021.
- Discussant Speaker, Global Projections from the Regions East Asia, Southeast Asia, South Asia, Middle East and Africa, GPYV Discussions, NIAS, January 25, 2021.
- Satellite Image Interpretation – An Overview, Defence Institute of Advanced Studies, Pune, November 23, 2020.
- Doklam to Galwan: Is It a New Normal?', NIAS, June 18, 2020,

Memberships

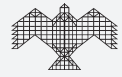
- Member, Thematic Group – Strategic STIP 2020 Policy for the Office of Principal Scientific Adviser to the Government of India and the Department of Science and Technology, 2020.
- Member, Board of Advisors for 2019 Conflict Report – Heidelberg Institute of International Conflict and Security Studies, Heidelberg, Germany, 2020.
- Member, Board of Governors, Internal Security, Safety and Protection Industry Association, New Delhi.
- NIAS-Institutional Member, OGC Geospatial Consortium India 2020-2021.
- Member, Indian National Cartographers Association, 2018 onwards.



- Member, Editorial Review Board: Electronic Journal of Social and Strategic Studies – Chennai, July 2019 onwards.

Other Activities

- Organised GWC Noida – NIAS Geospatial Knowledge Infrastructure International Roundtable Meeting, Malaysia Centre, March 30, 2021.
- Organised GWC Noida – NIAS Annual members meeting, Advancing Role of Geospatial Knowledge Infrastructure in World Economy, Society and Environment, India, March 26, 2021.
- Organised INAE-NIAS-IISc-CSTEP workshop sessions on Smart Cities Karnataka – Weekly Meetings, January to March 2021.
- Organised UN Mappers 2021, United Nations for Somalia - Mogadishu: Roads, Waterways and Villages, for UN Peace Keeping Missions Africa, January 5, 2021.
- Organised SIPRI Workshop on 'Assessing Nuclear Deterrence Risks and Challenges in South Asia' – December 8-9, 2020.
- Organised SIPRI Interview 'Assessing Nuclear Deterrence Risks and Challenges in South Asia', July 3, 2020.



Members of the International Strategic and Security Studies Programme



Srikumar Pullat
Visiting Professor
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Security Studies

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Joined NIAS on: May 24, 2017

Research Areas: Unmanned Aerial Vehicles for Civil and Military Applications; Space Environment, Space Security and Space Situational Awareness; Systems Analysis and Systems Engineering.

Lectures

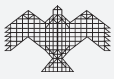
- Role of Stakeholders in Design and Development of Systems, Institute of Marine Engineers, Kochi, March 20, 2021.
- Systems Engineering Approach for Design and Development of UAVs, Aero Engineering Department, MVJ College of Engineering, Bengaluru, October 28, 2020.
- UAV Technologies and Drones in National Air Space, Technology Training on Emerging Fields in Defence Technologies and Challenges, NIAS, October 20, 2020.
- Air Vehicle Configuration Design – Some Experiences, Distinguished Guest lecture, Mechanical Engineering Department, Indian Institute of Science. Bengaluru, August 28, 2020.

Memberships

- Life Member, Aeronautical Society of India; Astronautical Society of India.
- Member, Annual Assessment Board for Scientists, DRDO, September – October 2020.

Other Activities

- Organiser, NIAS–CISAC Virtual Dialogues on 'India-US Cooperation on Global Security – Strategic Security Threats of 21st Century', first edition on November 20, 2020 and second edition on January 22, 2021.
- Organiser, Webinar on Civil Drone Operations in India's National Air Space, NIAS, July 29, 2020.
- Pursuing a Memorandum of Understanding (MoU) with Civil Aviation Research Organisation (CARO) of Airports Authority of India (AAI) for joint research activities on deployment of Civil Drones in National Air Space.
- Advisor to MTech students for Design and Development of Amphibious Drone for Surveillance applications in Air and Under Water, NITEE Meenakshi Institute of Technology.



Rajaram Nagappa
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Professor
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Joined NIAS on: February 1, 2007

Research Areas: Weapon Systems and Advances in Weapon Systems.

Lectures

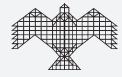
- S&T: Security and Securitisation, NIAS-DST Training Programme on S&T: Global Dimensions and Perspectives, February 9, 2021.
- Geospatial Surveillance and Coastal Security, Webinar on Deciphering China – Maritime Context, Institute of Contemporary Studies Bangalore, Chennai Centre for China Studies and Press Trust of India, November 26, 2020.
- ‘Satellites, Orbits and Launch Vehicles’ and ‘Space Situational Awareness’, Technology Training on Emerging Fields in Defence Technologies and Challenges, Online Technology Training on Emerging Fields in Defence Technologies and Challenges organised by NIAS for BEL Academy of Excellence, October 19, 2020.

Memberships

- Member, Editorial Board, *Frontiers in Science Technology and Applications*.
- Advisor, Space Federation of India (SpaceFed).
- Expert Member, Defence Institute of Advanced Technology PhD Committees.
- Expert Member, Review of Advanced Systems Lab, Expert Committee to Review Charter of DRDO Labs.

Other Activities

- Co-Organiser, NIAS–CISAC Virtual Dialogues on ‘India-US Cooperation on Global Security – Strategic Security Threats of 21st Century’, first edition on November 20, 2020 and second edition on January 22, 2021.
- Podcast on Evolution of Solid Propellants for Rocketry in India: Discussion with Narayan Prasad of New Space India.
- Reviewer, Book proposal, ‘Suryamala: India’s Path to Interplanetary Connectivity’ for Routledge, India.
- Reviewer, Spacecom Policy – 2020’ Department of Space, Government of India.
- Member, interview panel, Stockholm International Policy Research Institute (SIPRI).
- Interview with Max Butcher, Science and Technology Policy Institute (STPI), Washington DC towards Norms of Behaviour on Orbit Servicing, Assembly and Manufacturing (OSAM), February 12, 2021.
- Chairperson, Design and Performance Reviews, ASL and DRDL Missile Systems.



PM Soundar Rajan
Visiting Professor
School of Conflict and
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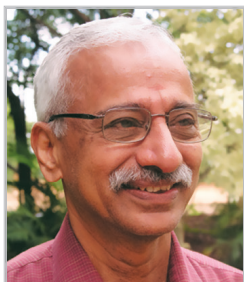
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Joined NIAS on: May 17, 2017

Research Areas: Advanced Weapon Systems; Fifth Generation Avionics Systems; Cyber Security; Defence Applications of AI; Air Power Assessment; Chinese Defence Technology Assessment; Lethal Autonomous Weapon Systems; Science Diplomacy; Hypersonic Weapon System Avionics and Vetrionics Systems for Battle Tanks.

Memberships

- Member, Review Committee for Avionics, Electronic Warfare, and Electro Optics, Advanced Medium Combat Aircraft Programme, Aeronautical Development Agency, Defence Research and Development Organisation.
- Member, Aerospace and Electronic Systems Society, IEEE Bengaluru.
- Member, Aeronautical Society of India.

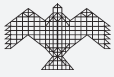


N Ramani
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Joined NIAS on: November 1, 2007

Research Areas: Development of Tools for Missile and Space Asset Capability Assessment.



Lalitha Sundaresan
Visiting Professor
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Joined NIAS on: May 14, 2008

Research Areas: Satellite Imagery Analysis.

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M Mayilvaganan
Associate Professor
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Joined NIAS on: November 2, 2010

Research Areas: Strategic and Security Issues Concerning India and India's Neighbourhood, Indian Ocean/Indo-Pacific, Foreign Policies of China, Japan and the US, Security Perspective of Climate Change, Refugees Issues and Non-Traditional Security Issues.

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Lectures

- India-Sri Lanka Relations in the Times of Global Changes, and South Asia in Transition: Perspectives on Geopolitics and Regional Cooperation, Department of Political Science, University College for Women, Hyderabad, December 2, 2020.
- The Evolving Dynamics in the Indo-Pacific and India's Outreach, 69th Midwest Conference on Asian Affairs (MCAA 2020), Michigan State University Center for Asian Studies, USA, October 17, 2020.
- China and the Potential Challenges to India – An Assessment, Webinar, India Tibet Friendship Society, Bengaluru, August 10, 2020.
- India's Medical Diplomacy during the Covid-19, Webinar on Diplomacy for Science and Technology to Manage Covid-19 Pandemic, Ramaiah Public Policy Centre, Bengaluru, July 24, 2020.
- Indo-Pacific Geopolitics, Webinar on Covid-19 and New World Order, Department of Political Science and Public Administration, Annamalai University, Chidambaram, June 24, 2020.



Memberships

- Member, Association for Asian Studies (AAS), Ann Arbor, USA (2019 -).
- Member, Australia-India Interdisciplinary Research Network (2012 -).
- Member, Southeast Asia Research Group (SEARG) (2016 -).
- Member and Convener, South Indian Scholars Group of International Studies, (2019 -).



Prakash Panneerselvam
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Joined NIAS on: December 1, 2015

Research Areas: International Politics (Japanese Studies), Maritime Security, Defence and Strategic Studies.

Academic Courses

- Introduction to Maritime Security: Concepts, Principles and Practices, NIAS Doctoral Program, September – December 2020.
- Securitization of Maritime Domain: Act of Violent Non-State Actors, NIAS Doctoral Program, January - May 2021.

Lectures

- Panel Discussion on Indian Annual Budget 2021 – 2022, Alva's Institute of Engineering and Technology, Mangalore, February 25, 2021.
- Japan's Maritime Priority and Policy Options in the Indo-Pacific, Conference on Japan's Grand Strategy in the Indo-Pacific Region: Debates, Dialogues and Deliberations, Japan Foundation and Jawaharlal Nehru University, New Delhi, February 23 to 26, 2021.
- India-China Relationship in the 21st Century, Bishop Heber College, Trichy, October 23, 2020.
- Revisiting the Indo-Pacific under a Pandemic, NIAS, June 2, 2020.

Membership

- Member, Research Committee of Federation of Karnataka Chamber of Commerce and Industry, Bengaluru.

Other Activities

- Jury member, Paper Presentation, The Young Diplomat 2021, Conference, Christ (Deemed to be University), March 20, 2021.
- Completed Certificate Course on Law of Armed Conflict at Sea: Contemporary Challenges, jointly organised by Rashtriya Raksha University and the International Committee of the Red Cross, March 1 to 6, 2021.
- Organiser, webinar, Impact of COVID-19 on FDI Regime and Japanese Investment in India, NIAS, June 24, 2020.



Members of the Consciousness Studies Programme



Sangeetha Menon
Professor and Dean
School of Humanities

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Joined NIAS on: January 8, 1996

Research Areas: Consciousness studies; Experiential self; Distinguishing Self-sense from Body-sense and the Core Self; Situating Consciousness within Interdisciplinary discussions on Culture and Self; Self, Character and Psychological wellbeing; Body, Self and Medical Humanities; Indigenous Philosophies and Healing traditions.

Academic Courses and Panel Discussions

- Module on Content Segregation and Thematic Discovery, Qualitative Methodology (Data Analysis), CSP researchers.
- Transdisciplinarity and Collective Knowledge Frameworks (with Dr Vishnuprasad, TDU), TDU Masters and Doctoral students, May 20 - 29, 2020.
- Panel discussion, Exploring the Self and its Movement through Arts and Philosophy' TDU and NIAS, May 27, 2020.

Lectures

- Arjuna's Conflict, Duryodhana's Pain and Krishna's Smile: How Bhagavadgītā and Mahābhārata Contextualises Layered Psychological States Within a Transformative Philosophy of Enlightenment. SPARC (Ministry of Culture initiative) Mahabharata Lecture, Department of Philosophy, Delhi University and Kamala Nehru College, DU, February 20, 2021.
- Indian Philosophy and Consciousness: With a focus on Drk-drsya-viveka, Bard College, Berlin, February 19, 2021.
- Theory of Mind, and Self-reflection: A Discussion on 'Mairtri' and 'Karuna' in Patanjala Yogasutra, Nava Nalanda Mahavihara, (Deemed to be) University, Ministry of Culture, Government of India, Nalanda, Bihar, February 18, 2021.
- Basics of Philosophy: Knowledge, Self and Life Purpose, ICPR Lecture series, Dept of Philosophy, Government College for Women, Thiruvananthapuram. Beyond Brain and Mind: The Exciting Future of Consciousness, Tata Management Training Centre, Bengaluru, December 14, 2020.
- Presenting Your Work: Planning Verbal presentations, Preparing Visual Layouts, Sharing the Mind maps, and Communicating with Your Audience, Academic Writing Course, NIAS, December 2, 2020.
- Body-Mind and Body-Self Debates: The Irreducibility of Consciousness, seminar on Self-consciousness in Thought and Experience, Indraprastha College for Women, University of Delhi, November 19, 2020.
- 'Knowledge' 'Being' and the 'Social in Phenomenology', Panel Discussion, NIAS CSP, October 13, 2020.



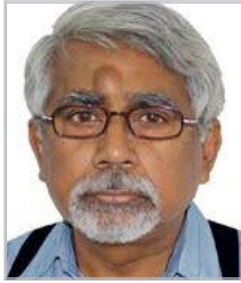
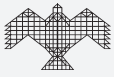
- Minds and Machines: The Future of AI and Consciousness, Tata Management Training Centre, Bengaluru, September 30, 2020.
- What is Philosophy, and How and Where it Can be Found? Research and Publication Ethics Course, NIAS, September 28, 2020.
- Can We Take the Self out of the Brain, and the Brain Out of the Self?, Lectures 2, Humanities Foundation Course, NIAS, September 11, 2020.
- Can We Take the Self out of the Brain, and the Brain Out of the Self?, Lectures 1, Humanities Foundation Course, NIAS, September 11, 2020.
- Consciousness Studies Programme @ NIAS, Tata Management Training Centre, Bengaluru, July 28, 2020.
- Experiencing Consciousness in Transcendence: Connecting Consciousness and Collectives of Plurality and Existence, SAVVY Contemporary's 'Summer Solstice Invocations, Berlin, June 21, 2020.
- The Narcissist Self, Nine Dimensions of Locked down experience lecture series, NIAS, June 17, 2020.
- The Masked Self, Nine Dimensions of Locked down experience lecture series, NIAS, June 15, 2020.
- The Alienated Self, Nine Dimensions of Locked down experience lecture series, NIAS, June 10, 2020.
- The Locked down Experience and its Self, Nine Dimensions of Locked down experience lecture series, June 8, 2020.
- Exploring the Self and Its Movement in Arts and Philosophy, Panel discussion, Trans-disciplinary University (TDU), May 27, 2020.
- Building and Experiencing Knowledge: Transdisciplinarity as a Method for Imaginative and Reflective Engagement in Research, Trans-disciplinary University (TDU), May 20, 2020.
- Brain and Consciousness: Understanding the Lockdown Experience, Vijnana Bharati, April 18, 2020.

Other Activities

- External examiner, doctoral thesis, Srishti School of Art, Design and Technology, TDU, Bengaluru.
- External examiner, doctoral thesis, Center for Neural and Cognitive Sciences, University of Hyderabad.
- External examiner, doctoral thesis, Department of Philosophy, University of Delhi.

Memberships

- Member, Academic Council, University of Trans-Disciplinary Health Sciences and Technology (TDU), Bengaluru.
- Member, National Task Force for Cognitive Science Research Initiative, DST, 2019-2023.
- Member, Advisory Council, METI International, San Francisco.
- Fellow, International Society for Science and Religion, Cambridge.
- Referee, Selection of new Fellows, International Society for Science and Religion, Cambridge.
- Associate Editor, Tattva Journal of Philosophy.
- Chairperson, Committee to deal with complaints on Sexual Harassment at Workplace, Centre for Development of Advanced Computing, Bengaluru.
- Member, Institutional Human Ethics Committee, Indian Institute of Science, Bengaluru.
- Member, Institutional Stem Cell Ethics Committee, National Centre for Biological Sciences, Bengaluru.
- Member, Institutional Stem Cell Ethics Committee Institute For Stem Cell Science and Regenerative Medicine (InStem), Bengaluru.
- Member, Institutional Stem Cell Ethics Committee, Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru.
- Member, Institutional Stem Cell Ethics Committee, Indian Institute of Science, Bengaluru.



Sisir Roy
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Joined NIAS on: November 5, 2014

Research Areas: Current Debates on Some of the Concepts in Modern Science and Ancient Indian Wisdom; Yoga, Meditation and Progress in Consciousness Research and Modern Neuroscience; Microbial Communication, Noise and Bacterial Intelligence.

Lectures

- Ancient Indian Knowledge and Philosophy of Science, India International Science Festival, Delhi, December 23, 2020.
- Microbial Communication and Bacterial Intelligence, Poornaprajna Institute of Scientific Research, Bengaluru, December 8, 2020.
- Understanding Space, Time and Causality: Modern Science and Ancient Indian Traditions, Poornaprajna Institute of Scientific Research, Bengaluru, December 1, 2020.

Other Activities

- Guest editor, special issue of *Frontiers in Psychology*, on The Varieties of Contemplative Experiences and Practices.



Nithin Nagaraj
Associate Professor
School of Humanities

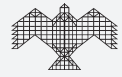
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Joined NIAS on: October 15, 2015

Research Areas: Scientific Theories of Consciousness, Causality, Brain-inspired Machine Learning.

Academic Courses

- Information Theory, Chaos and Causal Learning, NIAS Doctoral program, January - May 2020.
- Introduction to Scientific Theories of Consciousness, NIAS Doctoral program, August - December 2020.



Lectures

- Brain-inspired Machine Learning, International I-Brain Erasmus+ Round Table, CCCP-2020 Online Symposium, Moscow, December 12, 2020.
- Consciousness, Self and AI: The Present and The Future, Unconventional Learning module, 35th Tata Group eMerging Leadership Seminar (TGeLS), Tata Management Training Center, Bengaluru, October 22, 2020.
- Minds and Machines: The Future of AI and Consciousness, (along with Prof Sangeetha Menon), TCS eLS session on Unconventional Learning, Tata Management Training Center, Bengaluru, September 30, 2020.
- Artificial Intelligence and Machine Consciousness, Reading Glass Thematic Discussion (along with Dr Harikrishnan NB), Consciousness Studies Programme, NIAS, August 26, 2020.
- AI: From Turing to Sophia, as a part of the online International Workshop 'Facets of AI', July 15, 2020.
- Neuro-Chaos Inspired Machine Learning, ISE-Webinar Series on Industry and Research Perspective on Data Science, Department of Information Science and Engineering-NMIT, UNISYS India Private Limited and IEEE Student Branch Chapter, Bengaluru, June 13, 2020.
- AI, Machine Learning and Collective Intelligence, University of Trans-Disciplinary Health Science and Technology, Bengaluru, May 22, 2020.



Shankar Rajaraman

Post-Doctoral
Associate
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Joined NIAS on: August 1, 2018

Research Areas: Pratyabhijna Philosophy, Rasa Aesthetics, Kashmir Kavya Literature.

Academic Courses

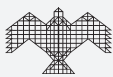
- Readings from Indian Aesthetics, NIAS, August 17-20, 2020.
- Module in School of Humanities Foundation Course, NIAS doctoral Program, September – October 2020.

Honour

Vagdevi Prashasti for contribution to Sanskrit literature from the Akhila Bharatiya Sahitya Parishat in February 2021.

Lectures

- Ganesasya KavervAcAm Ananya-kShuNNamArgata, Webinar on Modern Writings in Sanskrit, Department of Sanskrit, University of Kerala, March 2, 2021. Shiva-kesAdipAda-varNanA-stotram of AdiShankaracharya, Rama Seva Mandali, Bengaluru, February 12, 2021.
- Sanskrutakavyameemaamseyalli ManovaijnyanikatattvagaLu, Abhijnana Foundation, Bengaluru, November 11, 2020.
- Math, Meter, and Miracle Poetry, Namaste Organisation, Bengaluru, September 5, 2020.



Members of the Heritage, Science and Society Programme



Sharada Srinivasan
Professor
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Joined NIAS on: June 10, 2001

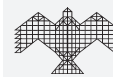
Research Areas: Archaeometallurgy.

Honour

Elected to the prestigious American Academy of Arts and Sciences in 2021 as International Honorary Member in the category of Social and Behavioural Sciences, Anthropology and Archaeology.

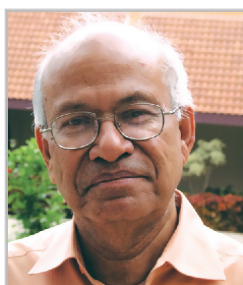
Lectures

- Chola Bronzes and Archaeometry, Indo-Russian Seminar webinar on Preservation of Cultural Heritage, Russian Academy of Sciences and ICSSR, March 31, 2021.
- Art and Technology of South Indian Bronzes and Chola Nataraja, India International Centre, Delhi, February 14, 2021.
- Art and Metal Technology of Chola Bronzes, Tamil Nadu Science Forum, Popular Science Lecture 34, Chennai, February 6, 2021.
- Traditional Metallurgy and Experimental Archaeology: Some Insights on Mirror Making and Iron Melting, India international Science Festival, Delhi, December 24, 2020.
- Musical Instruments at the Indian Music Experience Museum: A Virtual Tour, India International Science Festival, Delhi, December 23, 2020.
- India's Heritage in Sculpture. National Gallery of Modern Art with Gandhi Centre for Science and Human Values, Bengaluru, December 19, 2020.
- Megalithic/Iron Age and Early Historic Metallurgy in the Tamil Region. Asian Megaliths Lectures, December 13, 2020.
- Chola Bronzes-Art Historical and Archaeometallurgical Insights. Tamil Heritage Trust Indology Festival, Tamil Heritage Trust, Chennai, December 5, 2020.
- Kreyol Indika with Sharada Srinivasan, Thinnai Katcheri Season 2: 6, Paris, December 4, 2020.
- Zinc Extraction and Steel Making: Archaeometallurgical Insights, webinar on Chemistry in Ancient India, TIFR and ACS (American Chemical Society), Mumbai, November 7, 2020.
- Indian Metal Crafts, Webinar on Folklore and Intangible Cultural Heritage, IGNC, New Delhi, October 12, 2020.
- Harappan and Dholavira Metal Processing: Some Archaeometallurgical and Ethnometallurgical Explorations, International Webinar on Metal Art Object of



Indus Saraswati Civilization, National Museum New Delhi and Ishan Promote Art, Culture and Improve Society, Uttar Pradesh, October 8, 2020.

- Chola Bronzes: Artistic and Metalworking Legacy. Pune, Purattatva Samvardhan, October 4, 2020.
- Metal Working Traditions of Kammalar and Vishwakarma of Southern India. IGNCA, Delhi, September 19, 2020.
- A Journey in Archaeology – Sharada Srinivasan on Studying the Metals and Materials Heritage of Southern India, BIC STREAMS, Bangalore International Centre, August 19, 2020.
- Rare Artisanal Trajectories of Binary High-tin Bronze Mirrors and Vessels and Bell Casting, INTACH Conservation Insights Lectures, Delhi, August 14, 2020.
- Bronzes and Brasses and Lead Isotope Ratio Archaeometry in the Study of South Indian and Chola Metal Icons, INTACH Conservation Insights Lecture Series, Delhi, August 11, 2020.
- Highlights of Indian Metallurgical Heritage, INTACH Conservation Insights Lecture Series, Delhi, August 10, 2020.
- Early High-Tin Bronzes from South India and Southeast Asia, Karwaan Online History Festival Season 2, July 7, 2020.
- Archaeometallurgy and Ethnoarchaeology in the Nilgiris, (INTACH-Bengaluru), June 12, 2020.
- Nataraja: A Confluence of Arts and Sciences, NISTADS, June 18, 2020.
- Ancient Metallurgy in India, All India Council of Technical Education, webinar on Traditional Knowledge Systems, June 11, 2020.
- Nataraja Bronze and Cosmic Dance, Stories of World Culture, Indian Museum, Kolkata, May 16, 2020.
- Indian Contributions to Metallurgy in an Archaeological Context, Vijnana Bharati, Lockdown Live Lecture Series, Bengaluru, May 1, 2020.
- Aranmula Mirror Making, Stories of World Cultures, Indian Museum, Kolkata, April 19, 2020.

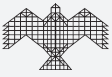


S Ranganathan
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Professor
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Joined NIAS on: July 2, 2004

Research Areas: Materials Heritage.

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Srikumar M Menon
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Joined NIAS on: March 1, 2016

Research Areas: Archaeoastronomy, Ancient Architecture, Monumental Architecture of Ancient Southern India.

Academic Course

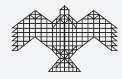
- Indian Temple Architecture: Origins and Evolution, NIAS doctoral program, August - November 2020.

Lectures

- Megalithic Monuments of India, BMS College of Architecture, Bengaluru, March 18, 2021.
- Dolmens and Dwarves: The 'Little People' in the Folklore of Megalithic South India, Webinar on Iron Age in South Asia, Department of Archaeology, University of Kerala, March 4, 2021.
- Tusks of Wisdom: The Elephant in the Buddhist Art of Kanaganahalli, Composing Worlds with Elephants: A Multidisciplinary Dialogue on Human-Elephant Relations, University of Oxford and six others, December 15, 2020.
- Megaliths and Astronomy in India, for Asian Megaliths: An Academic Platform for Students and Researchers, Asian Megaliths: Academic Platform for Students and Researchers, August 28, 2020.
- Temple Tales in session titled Frozen Moments, as part of Namaste 2020: Global Utsava of Indian Soft Power, Centre for Soft Power, Bengaluru, August 22, 2020.

Membership

- Member, PhD Committee, Martin Luther Christian University, Shillong.



MB Rajani
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Joined NIAS on: January 1, 2015

Research Areas: Landscape Archaeology; Geospatial Analysis for Cultural Heritage; Coastal Geomorphology and Cultural Heritage; Built Heritage and Physiography of Malaprabha River Valley; Cross-cultural Musical Exchanges in Colonial Period.

Academic Course

- Principles of Photogrammetry, NIAS doctoral program, January – May 2021.

Honour

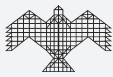
Elected to the National Core Committee of Indian National Young Academy of Science.

Lectures

- Patterns in Past Settlements: Geospatial Analysis of Imprints of Cultural Heritage on Landscapes, Bhoo-Mandal Talk Series, IEEE GRSS Bengaluru Section, October 16, 2020.
- Five Degrees of Variation at Nalanda: A Stellar Hypothesis (with Dr Viraj Kumar), ASET Colloquium, TIFR, Mumbai, September 4, 2020.
- Book Discussion, Patterns in Past Settlements: Geospatial Analysis of Imprints of Cultural Heritage on Landscapes, Vivekananda International Foundation, New Delhi, August 20, 2020.
- Applications of Geoinformatics to Archeology, webinar, Karnataka Science and Technology Academy, Bengaluru, July 16, 2020.
- Use of Geo-Spatial Technology in Cultural Heritage Studies, World Heritage Day Lecture Series, Puratattvasamvarshan, Pune, May 7, 2020.

Memberships

- Member, Indian National Young Academy of Sciences, 2018-2022.
- Core Committee Member, Earth Science, 2021-2023.
- Young Affiliate, The World Academy of Sciences, 2019-2023.



Smriti Haricharan
Assistant Professor
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Joined NIAS on: January 2, 2017

Research Areas: Archaeological Field Methods, Landscape Archaeology, Iron Age Early Historic South India, Archaeology of Death, Disseminating Archaeology, Contemporary Archaeology.

Academic Course

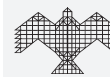
- Spaces of Power in Past Landscapes, NIAS Doctoral Program, June - December 2020.

Lectures

- Burial Patterns on the IA-EH landscape: A View from Siruthavoor, Tamilnadu (webinar), Iron Age in South Asia, Department of Archaeology, Kerala University, March 2, 2021.
- Reflecting on Keeladi and Archaeology in India, Tamil Nadu Science Forum, July 11, 2020.
- Reimagining the Urban: The Present and the Past, (with Prof Carol Upadhyya), NIAS-INTACH webinar series, June 24, 2020.

Other Activities

- Organiser, EAC12 Hotspot Hours #37: Experimental Archaeology at NIAS, Online Conference on Experimental Archaeology, EXARCH, UK, March 29 – April 1, 2021.
- Organiser, webinar on Back and Forth in Time: Lectures on the South Indian Past (along with Dr Meera Iyer, INTACH, Bengaluru Chapter), June 10-25, 2020.



Asmita Mohanty

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Joined NIAS on: October 1, 2018

Research Areas: Geo-archaeology, coastal geomorphic studies and landscape evolution, remote sensing and GIS, Active Fault and Paleoseismology, Active Tectonics.



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Joined NIAS on: January 1, 2018

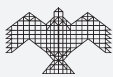
Research Areas: Archaeology, Experimental Archaeology and Archaeometallurgy.

Honour

Received a Fellowship from Liverpool University to explore Tipu's armouries.

Lectures

- A Comparative Study of Lost-Wax Technique of South Indian Bronze Casting and Manipur Brass Casting, International Conference on Australasian Research Cluster for Archaeological Science, Australia, March 20, 2020.
- A Comparative Approach to Understand the Current Ethno-techniques of Iron smiths of South and West India: Case Study of Karnataka and Gujarat, International Webinar on Iron Age in South Asia, University of Kerala, March 1, 2021.
- Craft Heritage in India, Vivekananda Institute of Indian Studies, Mysuru, November 4, 2020.
- Methods in Metals, Department of History and Archaeology, Tura Campus, North-Eastern Hill University, Shillong, Meghalaya, November 8, 2020.



- Investigating the Ancient Heritage of Indian Iron Smelting Technology through Experimental Approach, Nagaland University, November 8, 2020.
- Craft of Pottery/Wood Carving/Weaving/Metal Heritage, Vivekananda Institute of Indian Studies, Mysuru, September 23, 2020.



Tarun Menon
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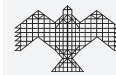
Research Areas: Philosophy of Physics: Statistical Mechanics and the Direction of Time; Philosophy of Economics: The Foundations of Game Theory; Philosophy of science: The value-free ideal in science.

Academic Courses

Academic Writing (co-taught with Carol Upadhy and Shivali Tukdeo), NIAS Doctoral program, October 2020 - January 2021.
Ethics and Redistribution, St. Xaviers College, Mumbai, August -December 2020.
Semester Project in Philosophy of Physics, IISER Pune, February - May 2021.

Lecture

- Democracy, Reason, and the Authority of Science, NIAS-DST Online Training Programme for Women Scientists, March 17, 2021.



Members of the Animal Behaviour and Cognition Programme



Sindhu Radhakrishna
Professor
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Joined NIAS on: September 1, 2001

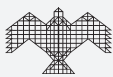
Research Areas: Animal Behaviour and Cognition, Primate Behavioural Ecology, Human-Animal Studies, Environmental Decision-Making, Human-Wildlife Conflict, Conservation Biology, Environmental Education.

Academic Courses

- Human-Environment Interactions (with Dr VV Binoy and Dr Shaurabh Anand), NIAS doctoral program, September – December 2020.
- Methods in Ethology (with Dr VV Binoy and Dr Shaurabh Anand), NIAS doctoral program, November 2020 -January 2021.
- Research Methodology (with Prof Anitha Kurup) for NIAS Doctoral program, September- December 2020.

Memberships

- Chairperson, NIAS Internal Complaints Committee (2019-)
- Member, NIAS Doctoral Studies Committee (2019-2020).
- Editorial Board Member, Resonance (2018 -).
- Executive Committee Member, Governing Board, Yakshi (2016- 2020).
- Commission Member, IUCN SSC Primate Specialist Group – South Asia (2013 -).



Anindya Sinha
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Joined NIAS on: November 15, 1996

Research Areas: Mammalian Behavioural Ecology and Cognitive Psychology, Animal Molecular and Behavioural Genetics, Evolutionary Biology, Conservation Studies, Urban Ecologies and Human-Nonhuman Relationships, Animal Studies, Performance and Heritage Studies and Philosophy of Biology.

Academic Courses

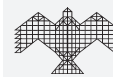
Module on Redundant Publications, Research and Publication Ethics, NIAS doctoral program, October 12, 2020.

Philosophy of Science and Conservation, Postgraduate Programme in Wildlife Biology and Conservation, National Centre for Biological Sciences, Bengaluru, September–October 2020.

Behavioural Ecology, Postgraduate Programme in Wildlife Biology and Conservation, National Centre for Biological Sciences, Bengaluru, March–May 2021.

Lectures

- Primate Worlds: From Complex Communities to Simple Minds, Refresher Course in Biological Sciences, Calcutta University, Kolkata, March 10, 2021.
- Doing Science in Unprecedented Times, Panel Discussion, International Women's Day Celebrations, IISER Pune, March 8, 2021,
- Intricacies of Human–Primate Interactions, Panel Discussion, Centre for Wildlife Studies, Bengaluru, February 12, 2021.
- Macaque Ethogeographies, Or Why We Must Live a Life with Monkeys and Other Beings
- Invited Lecture, Workshop on More-Than-Human Collaborations in Geographical Research, Queen's University, Kingston, Canada and Cambridge University, Cambridge, UK, February 10, 2021.
- Philosophy, Principles and Ethics of Primatology, Basic Course in Primatology 2020: An Online Workshop, Association of Indian Primatologists; December 7, 2020.
- Academic Writing in the Natural Sciences, panel discussion on writing styles in different disciplines, Academic Writing course, NIAS doctoral program, November 11, 2020.
- Social Cognition and Consciousness in Wild Nonhuman Primates, Masterclasses 1 and 2, Department of Zoology, University of Delhi, November 15 and 22, 2020.
- Reaching Out: Interspecies Communication in a Synurbising Forest of Southern India, Animal Borderlands: Virtual Meeting of the British Animal Studies Network, Keble College, Oxford, UK, October 2, 2020.



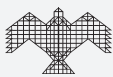
- The Elephant in the City, Training Programme for Tata Consultancy Services, Tata Management Training Centre and NIAS, September 30, 2020.
- The Weed Macaques of India: Uniquely Adaptable, but Ultimately Threatened?, Devicharan Barua Girls' College and Zoological Society of Assam, Jorhat, India; September 24, 2020.
- Scio Ergo Sum: Cognitive Knowledge and Conception of the Self in Wild Bonnet Macaques, Institute Colloquium, Saha Institute of Nuclear Physics, Kolkata, August 27, 2020.
- Are Bonnet Macaques Conscious? The Search for an Animal Mind, NIAS CSP Friday Talk, NIAS, Bengaluru, July 24, 2020.
- Primate Worlds, ATBS-R J College Biology Lecture, Mumbai, July 20, 2020.
- The Elephant in the City: Of Synurbising Forests and Ethologising Infrastructures, Virtual Workshop on Spaces of Living in Transformation, Ludwig Maximilian University, München, Germany, June 26, 2020.
- The Weeping Seven Sisters: Challenges to Biodiversity Conservation in Northeastern India, Keynote Lecture, World Environment Day, CSIR-National Environmental Engineering Research Institute, Nagpur, June 5, 2020.
- Urban Biodiversity and Its Preservation for Integrating Society, Panel Discussion, World Environment Day, CSIR-National Environmental Engineering Research Institute, Nagpur; June 5, 2020.
- The Weed Macaques of India, World Wildlife Fund, Hyderabad, May 30, 2020.
- Other Minds: Social Cognition in Wild Bonnet Macaques, Association of Indian Primatologists, May 14, 2020.

Memberships

- Nominated Member, Institute of Public Health (IPH) Society, Bengaluru, October 1, 2020 onwards.
- SubJury Member, International Biology Olympiad Challenge 2020, Japan, August 2-4, 2020.
- Member, IUCN/SSC Primate Specialist Group, International Union for the Conservation of Nature, Gland, Switzerland, (July 2020 -).
- Affiliate Senior Scientist, Centre for Wildlife Studies, Bengaluru (2020-).
- Nominated Member, Advisory Committee, Association of Indian Primatologists (2020 -).
- Adjunct Professor, Cotton University, Guwahati (2019 -).
- Member, Conservation Committee, International Primatological Society (2019-)
- Member, Research Advisory Committee, Department of Life Sciences, Presidency University, Kolkata (2018 -).
- Adjunct Research Professor, IISER Kolkata, (2018 -).
- Adjunct Faculty, Nature Conservation Foundation, Mysuru, July 2017 onwards.
- Honorary Research Fellow, School of Humanities, University of Exeter, Exeter, United Kingdom (2015 -).
- Vice President, Association for Teachers in the Biological Sciences, Mumbai (2015 -) onwards.
- Scientific Advisor and Research Coordinator, Dhole's Den Research Foundation, Bandipur National Park (2012 -).
- Adjunct Faculty, Centre for Neuroscience, Indian Institute of Science, Bengaluru (2011-)
- Adjunct Teaching Faculty, National Centre for Biological Sciences, Bengaluru (2010 -).
- Member, Steering Committee, Postgraduate Programme in Wildlife Biology and Conservation, National Centre for Biological Sciences, Bengaluru (2004 -).

Other Activities

- Networking for Elephants: A Workshop to Facilitate Systems Thinking, NIAS, Bengaluru, March 25, 2021.
- Biology for Students, Workshop, NIAS, IISER Tirupati and Agastya International Foundation, July 26, 2020.



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Joined NIAS on: September 2, 2010

Research Areas: Animal Behaviour, Social Cognition, Science Communication, Risk Communication.

Academic Courses

- Module on Evolution of Consciousness, Course on Consciousness and Self-Awareness; Academy of Research for the Cultivation of Indian Sciences, Kolkata and Kaivalyadhama Lonavla, Pune, January – March 2021.
- Cognition and Collective Intelligence, NIAS Doctoral program, September – December 2020.
- Module on Animal Cognition and Conservation, Methods in Ethology, NIAS doctoral students, December 2020 – February 2021.
- Research and Publication Ethics, NIAS doctoral program, December 2020 – February 2021.
- Human-Environment Interactions (with Prof Sindhu Radhakrishna and Dr Shaurabh Anand), NIAS doctoral program, September – December 2020.

Lectures

- Science, Technology, Innovation Policy STIP-2020, National Science Day-2021 Bengaluru, March 8, 2021.
- Connecting Science with Society: How Educational Institutions Can Work as a Catalyst', Faculty Development Programme, MES KVM College, Valanchery, Kerala, February 26, 2021.
- Did COVID-19 Impact Science Communication? 'Sciencecomm-2020', Swiss Academies of Arts and Science and Science et Cite, Solothurn, Switzerland, September 17, 2020.
- Achieving Sustainability Development Goals: Can Collective Intelligence Help? Christ University, Bengaluru, August 8, 2020.

Memberships

- Fellow, Intercontinental Academia, University-Based Institutes for Advanced Study (UBIAS)
- External Affiliate, Krasnow Institute of Advanced Study, George Mason University, USA.
- Representative, UNESCO UniTwin Complex Systems Digital Campus.
- Member, Board of Studies, Ramaiah University of Applied Sciences, Bengaluru.
- Member, IUCN Freshwater Specialist Group – South Asia.
- Member, IUCN Fish Conservation Network – South Asia.



- Mentor, Summer Research Fellowship Programme (SRFP), Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bengaluru.
- Mentor, National Initiative on Undergraduate Science (NIUS) Students (Biology), Homi Bhabha Centre for Science Education, TIFR, Mumbai.
- Member, Executive Committee, Ethological Society of India.



Shaurabh Anand
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Joined IAS on: February 12, 2019

Research Areas: Primate Ecology and Behaviour, Human-Primate Conflict.

Academic Courses

- Module on Behavioural Sampling Methods, Methods in Ethology, IAS doctoral students, December 2020 – February 2021.
- Module on Biodiversity and conservation in Human-Environment Interactions (with Prof Sindhu Radhakrishna and Dr Binoy), IAS doctoral program, September – December 2020.



Arijit Pal
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Joined IAS on: September 4, 2019

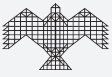
Research Areas: Animal Behavioural Ecology, Animal Cognition, Evolutionary Biology, Evolutionary Anthropology, Human-animal Interactions and Conservation Biology.

Honour

National Post-Doctoral Fellowship, Department of Science and Technology, GoI in December 2020.

Lectures

- Study Design – II: Writing Grant Proposals for Funding Agencies, Basic Course in Primatology – 2020, Association of Indian Primatologists, Online Workshop, December 7, 2020.



- A True Monkey Wrench? Multipurpose Tool Use and Manufacture by Wild Bonnet Macaques *Macaca Radiata*, Animal Behaviour Society, Virtual Conference, July 30, 2020.
- Struggle for Coexistence: Effect of Anthropocene on Non-human Life Forms, Sonamukhi College, Bankura University, Bankura, June 20, 2020.
- A Bit of 'Monkey-Business': Primate, Primatology and Beyond, Lockdown Talk Series-10, Wildlife Information and Nature Guide Society, Durgapur, West Bengal, May 10, 2020.
- Extractive Foraging: The Window to Evolution of Intelligence?, Lecture Series – Introduction to Primatology, Cotton University, Guwahati, April 6, 2020.



Viswanath Varma
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Associate
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Joined NIAS on: July 31, 2018

Research Areas: Animal Behaviour and Cognition.

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Members of the Complex Systems Programme



Janaki Balakrishnan
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Joined NIAS on: July 10, 2012

Research Areas: Nonlinear Dynamical Systems, Complex Systems, Nonlinear Oscillations, Stochastic Processes, Ecological Modelling.

Academic Courses

- Introduction to Dynamical Systems Theory, Department of Mathematics, Indian Institute of Science, January - May 2020.
- Module on Publication Ethics, Research and Publication Ethics Course, NIAS doctoral program, October, 2020.

Other Activities

- Reviewer, Physical Review E, Scientific Reports, Europhysics Letters, Physica D: Nonlinear Phenomena, Physics Letters A, Physics of Fluids.

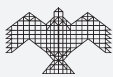


Sudharsana V Iyengar
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Joined NIAS on: July 4, 2016

Research Areas: Modelling Ecological Systems, Complex Systems.



Members of the Energy and Environment Programme



R Srikanth
Professor and Dean
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Joined NIAS on: August 22, 2016

Research Areas: Energy and Environment, Minerals, Sustainable Development, Public Policy.

Academic Course

- Energy and Environment Policy, Foundation Course of the School of Natural and Engineering Sciences, NIAS Doctoral Program, December 2020-March 2021.

Memberships

- Member, NITI Aayog Expert Group (2020- 2050).
- Member, Expert Committee constituted by National Green Tribunal (NGT) to assess the environmental compensation to be paid by Udupi Power Corporation.
- Member, Department of Scientific and Industrial Research's Technical Advisory Committee for "A2K+ Studies" Programme.



AV Krishnan
Principal Scientist (*till
December 31, 2020*)
Visiting Professor
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Joined NIAS on: May 15, 2019

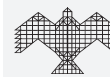
Research Areas: Clean Coal Technologies Related to Power Sector; Integrated Gasification Combined Cycle; Water conservation in Thermal Power Plants.

Lecture

- Transition Path for Thermal Power Plants, DST-NIAS Seminar, January 23, 2021.

Memberships

- Member, Project Review and Monitoring Committee for Advanced Ultra-Super Critical (AUSC) Power Plant R&D Project, Principal Scientific Advisor Office, Government of India.
- Member, Board of Governors, TREC-STEP, Department of Science and Technology, Government of India.



Sheela K Ramasesha
Principal Scientist (*till
September 25, 2020*)
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Joined NIAS on: September 28, 2017

Research Areas: Energy and Environmental Science.



Tejal Kanitkar
Associate Professor
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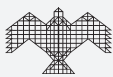
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Joined NIAS on: June 14, 2019

Research Areas: Climate Change Mitigation, Climate Policy and Negotiations; Energy Modelling, Renewable Energy Transitions and Energy Policy; Exploring Energy-Environment-Economy Linkages and Methods of Studying the Same; Social and Economic Impact Assessment: Focus on Energy, Irrigation and Agriculture, Economic and Environmental Impact of COVID-19.

Lectures

- Equity and Energy Transitions in India, Energy Finance Conference, organised by the Centre for Financial Accountability, New Delhi, and Department of Humanities and Social Sciences, IIT-Madras, December 11, 2020.
- Equity in Energy and Climate Change: Where are We in Meeting it?, Webinar on Advancing Reformed Multilateralism in the Changing World, Indian Council of World Affairs, Delhi, December 10, 2020.
- Better Economics for Climate Change, Panel Discussion, Parley Project and India Network, November 21, 2020.
- There is No Planet-B: Lessons from the Pandemic for Climate Justice, Panel Discussion, Bengaluru International Centre, June 5, 2020.



- Electricity Amendment Bill-2020, National Consultation on the Electricity Amendment Bill-2020, Environmental Support Group, Bengaluru, April 29, 2020.

Membership

- Member, Steering Committee, Bengaluru Sustainability Forum.



Rudrodip Majumdar
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Joined NIAS on: August 23, 2019

Research Areas: Renewable and Hybrid Energy Systems; Modelling and Performance Analysis of Thermal Energy Storage Systems; Correlation between Ambient Air Pollution with Geospatial Data; Integrated Gasification Combined Cycle (IGCC) Technology in India

Academic Courses

- Conventional and Non-conventional Pathways to Harness Energy: Focus on Renewable Energy Sources, NIAS doctoral program, September - December 2020.
- Advanced Energy Systems-I, NIAS doctoral program, February - May 2021.



Harini Santhanam
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Joined NIAS on: July 29, 2019

Research Areas: Aquatic Ecosystems and Sustainability; Integrated Geospatial Assessments and Modelling; Vulnerability, Sensitivity and Adaptability of Ecosystems.

Lectures

- Between the Earth and the Sky: Recent Geotechnological Advancements for Sustainable Development, Webinar on Recent Advances and Challenges in Geotechnical Engineering – An Industry-Academia Interaction Initiative, Vel Tech University, Chennai, December 11, 2020.
- Environmental Applications of Remote Sensing and GIS, Gujarat Technological University, August 13, 2020.



- Lakes as Vortices of Change in the COVID World, CSIR NEERI, Hyderabad Zonal Lab, Hyderabad, July 29, 2020.
- Environment and Diseases in the Past and Present-Finding the Schrodinger's Cat, Lingaraj College, Belagavi, July 18, 2020.



Chanchal Chauhan
Post-Doctoral
Associate
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Joined NIAS on: August 14, 2018

Research Area: Air Pollution.

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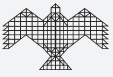


Harikrishna M
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Associate (*till
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Joined NIAS on: September 9, 2020

Research Areas: Power System Operational Studies, Energy Management, Electricity Mix, Computer Modelling and Simulation Analysis.

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Members of the Science Communication Programme



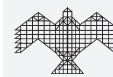
Ipshta Chowdhury

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Joined NIAS on: September 11, 2019

Research Areas: Human Factors Engineering.

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Other Members



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Joined NIAS on: June 15, 2016

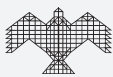
Research Areas: Water, Energy and Science Communication.

Lectures

- Vayu Pradooshan Ke Virudh in Hindi (Fight against Air Pollution), Navjeevan Model School, New Delhi, October 29, 2020.
- Draft EIA, 2020 – Merits and Demerits, Panel Discussion and Webinar, Vidyabhyasa Vikasa Kendram, Kochi, Kerala, September 24, 2020.
- Key Aspects of EIA, 2020, Panel Discussion, Hindustan Arts and Science College, Tamil Nadu, September 5, 2020.
- Nila Nadi. Ente Anubahvangal in Malayalam (River Nila – My Experience), Nila Vichara Vedi, Kerala, July 21, 2020.
- Water, Food, Energy and Environment Nexus, Teresian College. Mysore, June 5, 2020.
- Post COVID Sustenance of Environment Consciousness, VET First Grade College, June 5, 2020.
- Water for Life and Beyond – The Cleansing Element, Online Faculty Development Programme, Kongunadu Arts and Science College, Coimbatore, May 14, 2020.
- Effective Water Management Strategies – Taking Leads from Ancient Wisdom, PSGR Krishnammal College for Women, May 8, 2020.
- Emaluating the Best Practices from Ancient Indian Wisdom to Circumvent and Manage Water Crisis, Shiksha Samskriti Utthan Nyas, Tamil Nadu Chapter, April 30, 2020.
- India's Water Heritage, Vidyabhyasa Vikasa Kendram. Kochi, Kerala, April 11, 2020.

Memberships

- Lifetime Member, Swadeshi Science Movement, (VIBHA) Kochi, Kerala.
- Lifetime Member and Karnataka Head, Environment Education, Shiksha Sanskriti Utthan Nyas, New Delhi.
- Core Member, Pampa River Rejuvenation, Kerala.
- Core Member, Bharathapuzha river rejuvenation, Kerala.
- Team Member, Environment Education, Vidyabhyasa Vikasana Kendram, Kochi, Kerala.



**Sapam Tuleshwori
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Joined NIAS on: April 22, 2019

Research Areas: Genomics, Bioinformatics and Structure-based drug development in Chikungunya Virus and SARS-CoV2 research.

Lecture

- Drug Discovery Using Bioinformatics, Science Magazine. Broadcasted on Prasar Bharati, All India Radio, Imphal, Manipur, March 2, 2021.



Members of the Education Programme



Anitha Kurup
Professor
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Joined NIAS on: January 2, 1995

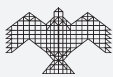
Research Areas: Sociology of Education, Education Leadership, Gender and Science, Education of the Gifted and Talented.

Lectures

- Higher Education and the Digital Future: Inventing Pedagogic Practices, Faculty Development Programme of Integral University, Lucknow, March 3, 2021.
- Pedagogy, Content Creation and Delivery: The Digital Future, Faculty Development Programme on Future Ready Legal Education, School of Law, Christ University, Bengaluru, January 15, 2021
- Mixed Methods Research: Implications for Research on Education, 4th Refresher Course in Teachers Education, HRDC-JNU, December 7, 2020.
- Advancing Equity and Inclusion: Focus on High Ability/Gifted Children of Disadvantaged Communities for the University Grants Commission, October 31, 2020.
- An Overview on Education and Sustainability in the 48th Technical Committee Meeting, organised by Karnataka Evaluation Authority, Government of Karnataka, October 8, 2020.
- National Programme for the Education of the Gifted and Talented, Ministry of Commerce and Information Technology, Government of Egypt, NIAS, September 21, 2020.
- National Education Policy: Two Responses – Education of the Gifted and Talented, and International Policy Influences(with Dr Shivali Tukdeo), NIAS, August, 19, 2020
- Institutional Response to COVID 19: Review of Higher Education in India, NIAS, June 10, 2020.

Memberships

- Expert Member, Research and Innovation Council, Vidyashilp University, Bengaluru.
- Member, Balam Committee to Review Rules and Regulations for MPhil and PhDs in India, University Grants Commission.
- Member, Expert Committee, Scheme for Trans-disciplinary Research for India's Developing Economy (STRIDE), University Grants Commission.
- Member, Academic Council, Christ University, Bengaluru.



- Member, Expert Committee for Sustainable development Goals (Education-4), Planning Department, Government of Karnataka.
- Member, Expert Committee, Literacy and School Education, Secretary, Literacy and School Education, Government of Karnataka.
- Member, Expert Committee, Higher Education, Secretary, Higher Education, Government of Karnataka.
- Expert Member, Committee for Preparing a 4-year pre-service BEd Integrated Course, National Council for Teacher Education, Government of India.
- Advisor, BEd Integrated Course Preparatory Phase, Christ University, Bengaluru.
- Advisor, BEd Integrated Course Preparatory Phase, NMKRV College, Bengaluru.
- Member, Comparative Education Society of India, JNU, New Delhi.
- Member, Local Review Committee on Project on Democracy, Pontifical Foundation Gravissium Education, Vatican.



Shivali Tukdeo
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Joined NIAS on: March 10, 2010

Research Areas: Sociology of Education Policy and Sociology of Education.

Academic Courses

Reading Course in Higher Education, NIAS doctoral program, September 2020 – January 2021.
Introduction to Academic Writing (With Prof Carol Upadhy and Dr Tarun Menon), NIAS doctoral program, September 2020 – January 2021.
Modules on Sociology of Education for Foundation Course in Social Sciences, NIAS doctoral program, September 2020 – January 2021.

Lectures

- National Education Policy 2020: Implications for College Teachers, Jawaharlal Nehru Technological University, Hyderabad, November 20, 2020.
- NEP 2020 and Internationalisation, German Centre for Research and Innovation, New Delhi, October 14, 2020.
- National Education Policy 2020: A Discussion on Educational Policy Reform in India, German Centre for Research and Innovation, New Delhi, October 14, 2020.
- NEP 2020 and Philanthro-Capitalism, Comparative Education Society of India (CESI), September 10, 2020.
- NEP 2020 and Re-structuring of School Education, RTE Forum, Maharashtra, August 13, 2020.



- The Karnataka State's Decision to Introduce Online Education, BGVS Karnataka, June 30, 2020.

Membership

- Member, Executive Committee, Comparative Education Society of India, JNU, New Delhi.



Shalini Dixit

Assistant Professor
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Joined NIAS on: December 21, 2015

Research Areas: Psychology of Education; Education for Sustainability; Collective Memory and Historical Understanding

Academic Courses

Course titled 'Perspectives and Processes in Education' with Prof Anitha Kurup, in the second semester for NIAS doctoral students during February – May 2020.

Course titled 'Social Psychology and Adaptation to Change; in the second semester for NIAS doctoral students during September – November 2020.

Optional course on 'Collective Memory' in the second semester for NIAS doctoral students during February to May 2021.

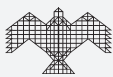
Modules on Qualitative Methods, Research Methodology Course, NIAS doctoral program, September – December 2020.

Lectures

- Cognitive Biases in Public Policy, Takshashila Institution, Bengaluru, February 13, 2021.
- Brain and Hopes of Learning, Institute of Brain and Behaviour Research Foundation, January 29, 2021.
- Cognitive Biases in Our Perception, Takshashila Institution, Bengaluru, September 26, 2020.
- Social Behaviour and Relationships: Lockdown 4.0, Department of Resource Management and Design Application, University of Delhi, May 16, 2020.
- Trust and Social Behaviour During and After Pandemic, Dr Babasaheb Ambedkar Technological University, Maharashtra, May 6, 2020.

Memberships

- Member, National Academy of Psychology, India.
- Member, Comparative Education Society, JNU, New Delhi, India.



Jeebanlata Salam
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Joined NIAS on: February 22, 2016

Research Areas: Sociology of Education, Social Exclusion and Education, Education Policies Vocational-Skill Education Policies, Studies in Ethnicity, and Identity.

Academic Courses

Methodology of Social Sciences for NIAS doctoral students, August – December 2020.
Sociology of Education for NIAS doctoral students, August – December 2020.
Modules on Social Exclusion and Education, Foundation Course for Social Sciences, NIAS Doctoral Programme, September – December 2020.

Lecture

- Skill/Vocational Education and Its Relevance in the Context of NPE 2020, National Coalition of Education, New Delhi and Pan India, Bihar, August 28, 2020.

Memberships

- Member, American Sociological Association Member.
- Indian Sociological Society.
- Member, Comparative Education Society, JNU, New Delhi, India



Malavika Kapur
Visiting Professor
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Joined NIAS on: May 1, 2003

Research Activities

Syllabus preparation, Course on Research and Publication Ethics, NIAS doctoral program, September -December 2020.

Creator, Balavana Kannada-English home study kits for Ashram school children, Karnataka.

Member, Steering Committee, SAMA Project, funded by the MRC-UK.

External examiner, doctoral thesis on Development and Effectiveness of an Art Therapy Application for Children for Christ (Deemed to be) University.



Members of the Inequality and Human Development Programme



Narendar Pani
Professor and Dean
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Joined NIAS on: April 9, 2007

Research Areas: The Causes and Consequences of Inequality; A Neo-Gandhian Approach to the Economy as a Process; The Conceptualisation of Sustainability; and The Theorisation of Conflict.

Lectures

- Panel Discussion on Agrarian Change and Urbanization in Southern India, Azim Premji University, March 10, 2021.
- Panel Discussion on the Union Budget 2021-22, FKCCI, March 3, 2021.
- Panel Discussion on the Union Budget 2021-22, Bengaluru Branch of the Institute of Chartered Accountants of India, March 2, 2021.
- Volatility and Power in India's Distance Dualism, New School New York, November 10, 2020.



Anant Kamath
Assistant Professor
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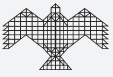
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Joined NIAS on: September 1, 2020

Research Areas: Technological Enquiry into Inequality in the Context of Social and Economic Transition Processes in India.

Lectures

- The Seamless Web of Technology and Society, NIAS-DST Training Programme on Science and Technology: Global Developments and Perspectives, February 2021.
- Technology, Caste and Policy, ISB-IPPN Annual Public Policy Conference, March 26/27, 2021.



Chetan Choithani
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Joined NIAS on: October 1, 2020

Research Areas: The Challenges of Those Left Behind.

Lecture

- Migration Narrative in India, Seminar on Narrating Migration, New York University – Steinhardt School, November 4, 2020.

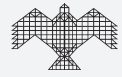


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Joined NIAS on: November 2, 2020

Research Areas: The direction of labour migration and that of capital flows.



Swati Narayan
Post-Doctoral
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Joined NIAS on: February 1, 2021

Research Areas: The analysis of human development and social policies from an interdisciplinary perspective, across South Asia and especially in India.

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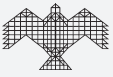


Nisar Kannangara
Post-Doctoral
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Joined NIAS on: February 25, 2021

Research Areas: Issues Examining Climate Change Patterns that Will Help Identify Issues for Deeper Empirical and Conceptual Analysis.

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Kshipra Jain
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Joined NIAS on: March 3, 2021

Research Areas: Issues on Mental Health in India.

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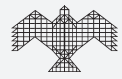
SS Meenakshisundaram
Visiting Professor
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Joined NIAS on: December 10, 2004

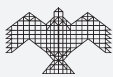
Memberships

- Member, Board of Management, Centre for Sustainable Development, Bengaluru
- Member, Board of Management Institute of Social Sciences, New Delhi.
- Member, Board of Management IIPA, Karnataka Regional Branch, Bengaluru.
- Member, Board of Management Institute for Societal Advancement, Thiruvananthapuram.
- Member, Board of Management National Design and Research Forum (NDRF), Bengaluru.
- Member, Board of Management DHAN Panchayat Development Foundation, Madurai.
- Member, The Karnataka State Policy and Planning Commission.
- Member, Academic Council, Karnataka State Rural Development and Panchayat Raj University Gadag.

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- Member, Advisory Group, ICSSR funded research project at Institute of Rural Management at Anand (IRMA) and Gandhigram Rural University, Tamil Nadu.
- Member, Social Audit Monitoring Committee of the Government of Chhattisgarh, Raipur.
- Member, Guidance Committee to the School of Local Governance at NIRD & PR, Hyderabad.
- Member, Committee to Review the Bye-laws of ISEC, Bengaluru.
- Chairperson, India Wash Forum, New Delhi
- Board Member, MYRADA, Bengaluru.
- Member, Academic Council, Green Skills Academy, Bengaluru.



Members of the Urban and Mobility Studies Programme



Carol Upadhyaya
Professor
School of Social
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Joined NIAS on: September 1, 2003

Research Areas: Urban Studies, Mobility and Transnational Studies, Labour Sociology.

Academic Courses

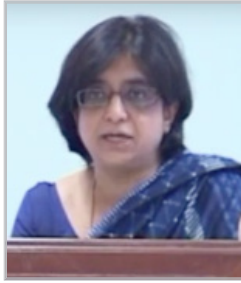
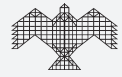
Academic Writing Course (With Dr Shivali Tukdeo and Dr Tarun Menon), NIAS doctoral Program, September -December 2020.

Lectures

- Thinking Through Labour: Class, Work and Occupation in Contemporary India, MS Merian – R Tagore International Centre of Advanced Studies, New Delhi, March 19, 2021.
- The Financial Aspects of the Amaravati Project, Workshop on Interrogating Governance and Financial Implications of ‘Smart Cities’, Environment Support Group, Bengaluru, Harvard Kennedy School, USA & Helmholtz Centre for Environmental Research-UFZ, Germany, November 19, 2020.
- Reimagining the Urban: Land and Caste on the City’s Periphery, 40th Refresher Course in Sociology, JNU, Department of Sociology, September 15, 2020.
- Reimagining the Urban: The Present and The Past (with Dr Smriti Haricharan) in the INTACH-NIAS Webinar Series, June 24, 2020.

Memberships

- Member, National Selection Committee, Fulbright-Nehru Academic and Professional Excellence Fellowships (H&SS), 2020-21.
- Chair, NIAS Research Ethics Committee.
- Co-editor, Journal of South Asian Development.



**Supriya
RoyChowdhury**
Honorary Visiting
Professor
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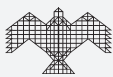
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Joined NIAS on: February 1, 2021

Research Areas: Labour, Trade Unions and Social Movements, Informal Work and Workers, Slums, Migration.

Membership

- Member, Board of Trustees, CIVIC, Bengaluru.



Library



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Library and
Information Officer

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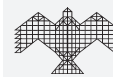
Joined NIAS on: May 1, 1992

Lectures

- Panel Discussion on Conversations with Librarians: Synthesizing 2020 for the Future, Indian Institute for Human Settlements, February 25, 2021.
- Plagiarism Checking Software Turnitin Demonstration, Research and Publications Ethics Course, NIAS doctoral program, December 16, 2020.
- Introduction to Open Access Publishing, Research and Publication Ethics Course, NIAS doctoral program, November 23, 2020.
- Library Research, Research Methodology Course, NIAS doctoral program, October 8, 2020.
- Institutional Assets of Social Science Research Institutes in India, 3rd LIS Academy Virtual Conference, August 28, 2020.

Other Activities

- Core Committee Member, International Conclave on eScience and Digital Libraries: Communities for Collaboration, A Virtual Conference organised by Informatics India Limited, Bengaluru; CSIR 4th Paradigm Institute, Bengaluru; Rajiv Gandhi University of Health Sciences, Bengaluru and NIAS January 27-30, 2021.



Director



Shailesh Nayak
Director

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Joined NIAS on: March 19, 2018

Research Areas: Earth System Science, Blue Economy, Science Diplomacy, Sustainability.

Honours

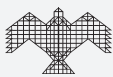
- Elected Fellow, Indian National Science Academy, Delhi.
- Prof RC Misra Lifetime Achievement Award-2020, Palaeontological Society of India, Lucknow.
- Honorary Member, Association of Hydrologists of India, Visakhapatnam.

Policy Interventions

- Provided input for framing 'Strategies and Recommendations for National Geospatial and Earth Observation Industrial Development Policy'. Geospatial Media and Communications and FICCI, New Delhi. Submitted to PMO in July, 2020.
- Chaired a Committee to provide input for STI Policy Governance as a part of formulation of Science, Technology and Innovation Policy-2020, Department of Science and Technology, Govt. of India.
- Input provided on Coastal and Deep Sea Mining and Offshore Energy for India's Blue Economy – A Draft Policy Framework, Economic Advisory Council to the Prime Minister, Government of India. 2020.

Memberships

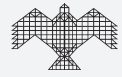
- Chancellor, TERI School of Advanced Studies, New Delhi.
- Honorary Scientific Consultant, Office of the Principal Scientific Adviser (PSA), Govt. of India.
- Fellow, Indian National Science Academy, New Delhi. Thanks
- Fellow, National Academy of Sciences, India (NASI), Allahabad.
- Fellow, Indian Academy of Sciences (IASc), Bengaluru.
- Fellow, International Society of Photogrammetry, Remote Sensing and Spatial Sciences.
- Academician, International Academy of Astronautics (IAA), Paris.
- President, Indian Geophysical Union (IGU), Hyderabad (2020-2022).



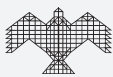
- President, Mangrove Society of India (MSI), Goa.
- Member, Governing Board, The Energy and Resources Institute (TERI), New Delhi.
- Member, Governing Board, Foundation for Ecological Security (FES), Anand.
- Member, Governing Council, Indian Council of World (ICWA), New Delhi.
- Member, Governing Board, Research and Information System for Developing Countries (RIS), New Delhi.
- Member, Scrutiny Committee for Selection of Fellows, Selection Committee for NASI-Reliance Industries Platinum Jubilee Awards, NASI.
- Member, Current Science Association General Body (Feb 2020 onwards).
- Member, Steering Committee, 2nd International Indian Ocean Expedition (IIOE-2).
- Member, National Committee of IIOE-2.
- Chairman, Research Council, ESSO-National Centre for Polar and Ocean Research (NCPOR), Goa.
- Chairman, Research Council, ESSO-National Centre for Coastal Research, Chennai.
- Chairman, Research Council, Wadia Institute of Himalayan Geology (WIHG), Dehradun.
- Chairman, Programme Advisory Committee - Koyna Deep Borehole Research, Ministry of Earth Sciences, Govt. Of India (2020-2023).
- Chairman, Blue Flag National Jury – India (2018 onwards)
- Chairman, High Level Committee (HLC) for Merging of CSIR Laboratories CSIR -4PI, CSIR-NISCAIR, CSIR-NISTADS as per Apex Committee Proposal (2020).
- Chairman, Monitoring Committee of CSIR Mission 'Safety & Security of Vital Installations', New Delhi.
- Regional Member for Asia, International Society of Photogrammetry, Remote Sensing and Spatial Sciences (ISPRS).
- Member, International Science Advisory Committee, ISPRS.
- Member, Board of Trustees, the ISPRS Foundation.

Lectures

- Towards Blue Economy, WMO Day, ESSO-India Meteorological Organisation, Indian Meteorological Society, Ocean Society of India, New Delhi. March 23, 2021.
- Cooperation to Preserve the Himalayan Ecological System. Society for Promotion of Science and Technology in India and Chandigarh Chapter of NASI, Chandigarh, March 9, 2021.
- Remote Sensing for Developing Countries: The Vision of Sarabhai. National Science Day Lecture, ISRS – Ludhiana Chapter, February 26, 2021
- Geopolitics of the Third pole at the Himalayas. Induction Training program for Indian Foreign Service (IFS) Officer Trainees, Sushma Swaraj Institute of Foreign Service, New Delhi, February 18, 2021
- Thematic Track Session – From Coasts to High Seas: Exploring Solutions for a Cleaner Ocean and Sustainable Blue Economy. World Sustainable Development Summit (WSDS) – 2021. The Energy and Resource Institute, Delhi, February 10, 2021.
- Role of Remote Sensing in Weather and Climate Forecasting. Popular talk in the Virtual Symposium on Tropical Meteorology (TROPMET-2020) organized by Indian Meteorological Society (IMS), Delhi and North Eastern Space Applications Centre (NESAC), Shillong, December 16, 2020.
- Earth System Science for Self-reliant India and Global Welfare, Virtual Indian International Science Festival 2020, Indian National Centre for Ocean Information Services and Vijnana Bharathi, Hyderabad, December 13, 2020.



- India and China in the Arctic. Webinar on Deciphering China – The Maritime Context Institute of Contemporary Studies, Bengaluru, Chennai Centre for China Studies and Press Trust of India, November 27, 2020.
- Remote Sensing for National Development: The Legacy of Dr Vikram Sarabhai. 59th Foundation Day Lecture, ESSO-Indian Institute of Tropical Meteorology, Pune. November 17, 2020.
- Weather and Climate Services for Self-reliant India and Global Welfare. Virtual Inaugural Address at the Curtain Raising Session: ESSO-India Meteorological Department, New Delhi. November 28, 2020.
- Building from Scratch: The Tsunami Warning System. Faculty Induction program, UGC-HRDC, University of Lucknow, October 29, 2020.
- Panel discussion on Tech War: How far it will go? 17th Annual Meeting of the Valdai Discussion Club – The Lessons of the Pandemic and the New Agenda: How to Turn the World Crisis into an Opportunity for the World, Centre for International Cooperation, Valdai Club Foundation, Russia, October 21, 2020.
- NIAS-An Overview. 29th TCS Emerging Leadership Programme, Tata Management Training Centre, Pune. September 30, 2020.
- Role of Remote Sensing for National Development. Foundation day lecture, CSIR-National Geophysical Research Institute (CSIR-NGRI), Hyderabad, 26 September 2020.



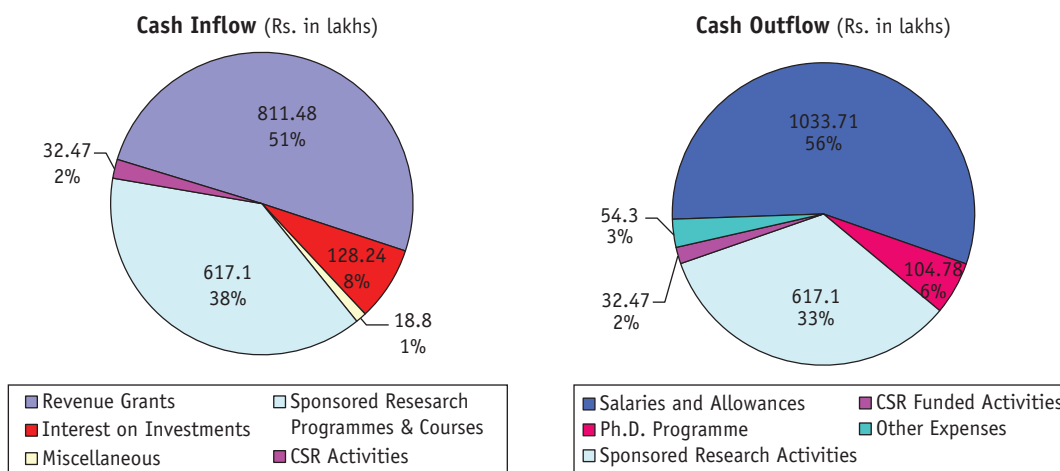
ADMINISTRATION

As a registered society, NIAS derives its administrative and financial authority through the society, represented by the general body. The Council of Management, which is currently chaired by Mr S Ramadorai, is vested with full power and authority to do all acts, deeds, etc. which are necessary for the promotion and fulfillment of the objectives set out in the Memorandum of Association. The Director, presently Dr Shailesh Nayak, is the chief executive and exercises general, administrative, and financial control over the affairs of NIAS. The Director is assisted in the administrative and finance matters by Head (Admin. & Finance).

Besides management of all resources such as infrastructure, finance, human resources, estates etc., general administrative matters are also handled by Head (Admin. & Finance).

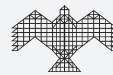
Administration enables recruitment and deployment of staff, servicing their needs and empowering them to effectively contribute to the objectives of NIAS. It facilitates the students doctoral programme through which a total of sixty one students have registered for their PhD degrees. Administration also takes care of the campus, its facilities such as the auditorium, lecture halls, meeting rooms, classrooms, guesthouse, dining halls, etc. and all other infrastructure of NIAS. Administration also plays a unique role in conducting various programmes including training courses. Procurement of materials and consumables, maintenance of facilities, inventory control, etc. are also done by Administration. Compliance with various statutory requirements such as Provident Fund, Professional Tax, Income Tax, etc. is also taken care by Administration. The administrative set up consists of, in addition to the Head-Administration, an Office Manager, two Assistant Managers in the area of Administration and Accounts & Finance and other Secretarial/Office/Supporting Staff, in all numbering 29 personnel.

Finance management, accounting, auditing (internal and statutory), resource mobilization and expenditure control are carried out systematically. An overview of finances for the year 2020-21 is given below:



NIAS has a specified investment of Rs.1,742.10 lakhs (exclusive of project funds) as on March 31, 2021.

During the past year, the Institute received 13 new research projects with a total value of Rs.1,317.52 lakhs. Total value of projects handled during the year including the projects sanctioned in the earlier years was Rs.3,448.08 lakhs. This is inclusive of CSR funded initiatives. Foreign exchange component included in this sum was Rs.430.86 lakhs.



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Office Manager

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Joined NIAS on: April 16, 2012



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Assistant Manager (Administration)

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Joined NIAS on: March 27, 1989



P Satish Bhat
Assistant Manager (Accounts and Finance)

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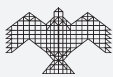
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Joined NIAS on: March 26, 1992



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Joined NIAS on: December 10, 1990



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Joined NIAS on: October 1, 1992



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Joined NIAS on: December 1, 2006



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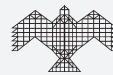
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R Vijayalakshmi
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Joined NIAS on: February 3, 2020



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Joined NIAS on: July 7, 2008



AS Mary Stella
Executive Assistant

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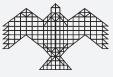
Joined NIAS on: June 23, 1994



VA Ramesh
Junior Executive Assistant

Room No. Auditorium
Tele: 080-22185057
Fax: 080-22185028
Email: ramesh@nias.res.in

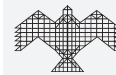
Joined NIAS on: July 1, 2011



SUPPORT STAFF



*Left to Right Row-1: R Harish, N Rajesh, B Shivanandappa, Shivakumar, S Sampath, Mohammed Umar
Row-2: SR Rathnam, Chandrashekar, N Ramesh, V Srinivasa, G Nagaraja
Row-2: Mujeeb Pasha, G Venugopal, Gajanana S Naik*



NIAS FINANCIAL REPORTS

**Deloitte
Haskins & Sells LLP**

Chartered Accountants
One International Centre, Tower 3, 27th -32nd Floor
Senapati Bapat Marg, Elphinstone Road (West)
Mumbai – 400 013, Maharashtra, India

Tele: + 91 22 6185 4000, Fax: +91 22 6185 4001

INDEPENDENT AUDITORS' REPORT

TO THE MEMBERS OF NATIONAL INSTITUTE OF ADVANCED STUDIES

Opinion

We have audited the accompanying financial statements of **NATIONAL INSTITUTE OF ADVANCED STUDIES** ("the Society"), which comprise the Balance Sheet as at March 31, 2021, and the Statement of Income and Expenditure for the year ended and a summary of significant accounting policies and other explanatory information.

In our opinion and to the best of our information and according to the explanations given to us, the aforesaid financial statements give a true and fair view in conformity with the Accounting Standards issued by the Institute of Chartered Accountants of India (ICAI) and accounting principles generally accepted in India, of the financial position of the Society as at March 31, 2021, and its financial performance for the year ended on that date.

Basis for Opinion

We conducted our audit in accordance with the Standards on Auditing (SAs) issued by ICAI. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report.

We are independent of the Society in accordance with the Code of Ethics issued by the Institute of Chartered Accountants of India together with the ethical requirements that are relevant to our audit of the financial statements, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the ICAI's Code of Ethics. We believe that the audit evidence obtained by us is sufficient and appropriate to provide a basis for our audit opinion on the financial statements.

Management's Responsibility for the Financial Statements

The Society's management is responsible for the preparation of these financial statements that give a true and fair view of the financial position, financial performance of the Society in accordance with the Accounting Standards and other accounting principles generally accepted in India. This responsibility also includes maintenance of adequate accounting records to safeguard the assets of the Society and for preventing and detecting frauds and other irregularities; selection and application of appropriate accounting policies; making judgments and estimates that are reasonable and prudent; and design, implementation and maintenance of adequate internal financial controls, that were operating effectively for ensuring the accuracy and completeness of the accounting records, relevant to the preparation and presentation of the financial statement that give a true and fair view and are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Society's management is responsible for assessing the society's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the entity or to cease operations, or has no realistic alternative but to do so.

The Society's Management is responsible for overseeing the Society's financial reporting process.



Auditor's Responsibility for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with SAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with SAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal financial control relevant to the audit in order to design audit procedures that are appropriate in the circumstances but not for the purpose of expressing an opinion on the effectiveness of the Society's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Society's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Society to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

Materiality is the magnitude of misstatements in the financial statements that, individually or in aggregate, makes it probable that the economic decisions of a reasonably knowledgeable user of the financial statements may be influenced. We consider quantitative materiality and qualitative factors in (i) planning the scope of our audit work and in evaluating the results of our work; and (ii) to evaluate the effect of any identified misstatements in the financial statements.

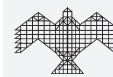
We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

For **DELOITTE HASKINS & SELLS LLP**
Chartered Accountants
(Firm Registration No. 117366W/ W-100018)

Sd/-
Joe Pretto
(Partner)
(Membership No. 77491)

MUMBAI,
Dated: November 25, 2021



BALANCE SHEET AS AT MARCH 31, 2021

Particulars	As at March 31, 2021 (In Rupees)	As at March 31, 2020 (In Rupees)
FUNDS AND LIABILITIES		
Funds		
(a) Corpus Fund	3,35,00,000	3,35,00,000
(b) Fixed Assets Fund	6,94,49,277	7,29,14,871
(c) Earmarked Funds	5,61,66,981	6,70,13,400
(d) Other Funds	14,07,10,000	15,78,76,229
(e) Income & Expenditure Account	2,80,31,513	3,71,67,534
	32,78,57,771	36,84,72,034
Current Liabilities and Provisions		
(a) Current Liabilities	51,18,855	26,82,930
(b) Provisions	1,27,04,329	71,29,000
	1,78,23,184	98,11,930
TOTAL	34,56,80,955	37,82,83,964
ASSETS		
(a) Fixed assets		
- Tangible Assets	9,17,33,082	9,68,32,037
- Capital Work-in-Progress	-	13,44,000
(b) Investments	17,12,34,600	17,97,34,600
(c) Loans and advances	1,05,90,047	1,26,98,932
(d) Cash and bank balances	7,18,89,586	8,76,74,395
(e) Other Receivables	2,33,640	-
TOTAL	34,56,80,955	37,82,83,964

In terms of our report attached.
For **Deloitte Haskins & Sells LLP**
Chartered Accountants

For **National Institute of Advanced Studies**

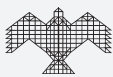
Sd/-
Joe Pretto
Partner

Sd/-
Dr. Shailesh Nayak
Director

Sd/-
P. Srinivasa Aithal
Head-Administration

Place : Mumbai
Date : November 25, 2021

Place : Bengaluru
Date : November 25, 2021



INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED MARCH 31, 2021

Particulars	2020-21 (In Rupees)	2019-20 (In Rupees)
Income		
Grant income	17,44,30,663	22,64,96,343
Other income	1,47,03,683	2,44,42,989
Total Income	18,91,34,346	25,09,39,332
Expenses		
(i) Sponsored Research Expenditure	8,84,73,069	14,82,10,945
Total (A)	8,84,73,069	14,82,10,945
(ii) Employee Benefit Expenses	10,13,13,439	8,64,19,768
(iii) Other Expenses	1,78,74,445	1,49,19,051
(iv) Depreciation	66,09,414	59,08,947
Total (B)	12,57,97,298	10,72,47,766
Total expenses	21,42,70,367	25,54,58,711
Excess of Expenditure over Income for the year	(2,51,36,021)	(45,19,379)
Income Taxes Paid for Earlier Years (Refer Note 20)	-	11,52,046
Excess of Expenditure over Income for the year carried to Balance Sheet	(2,51,36,021)	(56,71,425)

In terms of our report attached.
For **Deloitte Haskins & Sells LLP**
Chartered Accountants

For **National Institute of Advanced Studies**

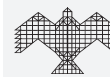
Sd/-
Joe Pretto
Partner

Sd/-
Dr. Shailesh Nayak
Director

Sd/-
P. Srinivasa Aithal
Head-Administration

Place : Mumbai
Date : November 25, 2021

Place : Bengaluru
Date : November 25, 2021



NATIONAL INSTITUTE OF ADVANCED STUDIES

SIGNIFICANT ACCOUNTING POLICIES AND NOTES ON ACCOUNTS FORMING PART OF THE FINANCIAL STATEMENTS AS AT MARCH 31, 2021

1) (a) Organization Overview:

The National Institute of Advanced Studies ("Society/Institute") is registered as a Society under the Karnataka Societies Registration Act, 1960, vide No.139/88-89 dated June 20, 1988.

Society is registered under Section 12A (a) of the Income Tax Act, 1961, vide No. Accts/718/10A/VOL./A II/N-110, dated February 13, 1990.

Society is registered under Foreign Contribution (Regulation) Act, 1976 ("FCRA") vide registration no. 094420614 dated October 1, 1993.

FCRA authorities have renewed FCRA certificate for the period starting from November 1, 2016 to October 31, 2021 vide letter dated August 5, 2016.

(b) The main objectives of the Society include:

- I. To establish and develop an Institute of Advanced Studies in order to impart higher knowledge and conduct Research;
- II. To set up and sponsor research groups on problems relating to the development of the country and for identifying problems which require immediate study and resolution; and
- III. To provide programmers of varying duration for executives and officers of Government, Public and Private Enterprises, and Personnel of Universities, Defense services and the Professions, to broaden their cultural and academic background for the successful performance of their duties.

2) Significant Accounting Policies:-

A. Basis of Preparation of Financial Statements:

The financial statements have been prepared in accordance with historical accounting convention and on the accrual basis of accounting. The Accounting Policies adopted in preparation of financial statements are consistent with those followed in the previous year.

B. Fixed Assets:

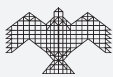
Fixed assets are stated at written down values i.e. cost of acquisition less accumulated depreciation. Cost of acquisition of fixed assets includes all direct expenses relating to acquisition of the asset.

C. Depreciation:

Depreciation on the fixed assets has been provided on written down value basis, in accordance with the rates prescribed under Income Tax Act, 1961.

D. Revenue Recognition:

- a) Donation/Revenue Grants are recognized as income in the Income and Expenditure Account in the period in which the collections are actually received.
- b) Earmarked grants are initially credited to a liability account in the Balance Sheet and are transferred to Income and Expenditure Account in the year in which and to the extent to which the Institute complies with the conditions attached to them.
- c) Interest Income is recognized in the time proportion basis taking into account the amount outstanding.
- d) Income from symposia, seminars and workshops are recognized as income as and when symposia, seminars and workshops are organized and held.



E. Foreign Exchange Transactions:

Transactions denominated in foreign currency are accounted at the transacted exchange rates.

F. Investments:

Investments are stated at cost less provision for diminution, other than temporary, in the value of such investments.

G. Employee Benefits:

Employee benefits include provident fund, gratuity fund and compensated absences.

Short Term Benefits:

Short term Employee Benefits are accounted as expenses in the income and expenditure account in the year in which service is rendered. These benefits include compensated absences, which are expected to occur within twelve months after the end of the period in which the employee renders the related service.

Post Employment Benefits and Other long term Employee Benefits:

The society's contribution to the provident fund is recognized as expenses in the Income and Expenditure account of the year in which the contribution is paid to the provident fund trust. Any deficit in the Provident Fund Trust is recognized as expense in the Income & Expenditure Account of the Society. The exemption availed by the Institute under the Employees Provident Fund Act 1952 for having its own Provident Fund Trust has been surrendered to the Government with effect from 01 April 2021.

For defined benefit plans in the form of gratuity fund, the cost of providing benefits is determined using the Projected Unit Credit method, with actuarial valuations being carried out at each Balance Sheet date. Actuarial gains and losses are recognized in the Income & Expenditure Account in the period in which they occur. Past service, cost is recognised immediately to the extent that the benefits are already vested and otherwise is amortised on a straight-line basis over the average period until the benefits become vested.

Compensated absences, which are not expected to occur within twelve months after the end of the period in which the employee renders the related services, are recognised as an actuarially determined liability at the present value of the defined benefit obligation at the balance sheet date, as reduced by the fair value of scheme assets.

H. Provisions and Contingent Liabilities:

Provisions are recognized when the society recognizes that it has a present obligation as a result of past events, it is more likely than not that an outflow of resources will be required to settle the obligation and the amount can be reasonably estimated.

Provisions are not discounted to their present value and are determined based on best estimate required to settle the obligation at the balance sheet date. These are reviewed at each balance sheet date and adjusted to reflect the current best estimates.

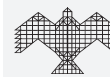
Contingent liabilities are not recognized but disclosed in the notes to financial statement. Contingent assets are neither recognized nor disclosed in the financial statement.

I. Revolving Fund:

Revolving Fund is in the nature of contingency reserve fund. The interest earned on investment made out of the Revolving fund is used to meet the revenue expenditure of the Institute and the fund may be used to meet shortfall, if any, in general fund and replenished back as and when surplus funds are available, in order to keep the revolving fund intact. During the year the Institute had drawn an amount of Rs.160.00 lakhs to meet the revenue shortfall.

J. Recognition of Capital Grants:

Capital Grants received towards cost of fixed assets is credited to Capital fund. The society has



adopted Accounting Standard -12 issued by ICAI, in the case of Capital Grants. Accordingly, an amount equal to the depreciation on the assets created out of such grants is transferred from Capital fund to Income and Expenditure Account.

03) Section 12A Registration:

The Society is registered under Section 12A (a) of the Income Tax Act, 1961, vide No. Accts/718/10A/VOL./A II/N-110, dated February 13, 1990 which entitles it to claim an exemption from Income tax provided certain conditions laid down in the Income Tax Act 1961 are complied with. Provision for tax will be made only in the year in which the Society is unable to establish reasonable certainty of its ability to fulfill these conditions.

04) Income Taxes Paid:

In the previous year, the Institute received an Income Tax order from the Income tax department, relating to the assessment year 2012-13 raising the demand of Rs.11,52,046/= (including interest). Based on the reassessment proceedings, the institute had filed a revised return under Section 12A(a) of Income Tax Act, 1961. The assessment resulted into the taxable income of Rs.26,79,100/= on which the aforesaid tax demand was raised. Institute had accepted this demand and accordingly paid the tax liability and charged to Income and Expenditure Account.

05) Land Lease:

The NIAS had entered into lease agreement with Indian Institute of Science, Bangalore ("Institute") dated August 28, 1990 for plot of land of 5 acres for establishment of NIAS by way of license to NIAS, for the organisation and functioning of the NIAS at the Institute. The institute will levy a nominal amount of Rs. 1 (Rupee One only) per annum on the NIAS as license fee for the use of Institute ground. The said lease is perpetual in nature till the conditions specified in the agreement is observed. In failure to non-observance of the said conditions the Institute will revoke the licence and enter upon the site and buildings.

06) Coronavirus Impact (COVID-19):

A nationwide lockdown was imposed during April/May, 2021 due to COVID 19 pandemic, National Institute of Advance Studies being an Associate Organization of Tata Trust is following all protocols to curtail the epidemic spread in the campus. NIAS is involved in advanced multidisciplinary research, outreach programs, collaborations with various institutions to conduct different programs and projects, also carries several residential courses, trainings, conferences and workshops for educational Institutions and government establishments. Due to COVID 19, the training programmes were organised through online mode only.

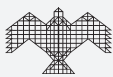
07) Previous years' figures have been regrouped/ reclassified wherever necessary.

For and on behalf of National Institute of Advanced Studies

Place: Bengaluru
Date: November 25, 2021

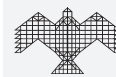
Sd/-
Dr. Shailesh Nayak
Director

Sd/-
P. Srinivasa Aithal
Head-Administration

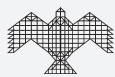


RESEARCH PROGRAMMES AND PROJECTS

Sl. No.	Title of the Research Project/ Programme	Funding Agency	Name of the Project Investigator	Duration	Sanctioned Amount in Rs. in lakhs
School of Conflict and Security Studies					
1.	Advanced Weapon System	DRDO	Prof Rajaram Nagappa	Sept'17 – Aug'20	92.92
2.	Natural Resources, Conflict and Consciousness: Dissecting People's Movements in Odisha	ICSSR	Dr Anshuman Behera	Jan'18 – Apr'20	6.45
3.	RIS and NIAS Joint Programme in Science Diplomacy	DST	Prof D Suba Chandran	Feb'18 – Feb'21	45.14
4.	Study on Adopting Sustainability into the Tourism Development	DoT, Government of Karnataka	Dr Anshuman Behera	Jan'19 – Jun'21	23.75
5.	Distributed Intelligent Ultrasound Imaging System for Secure in-community Diagnostics (Secure Ultrasound)	EPSRC	Dr V Bhujanga Rao	Feb'18 – Jan'21	105.86
6.	Study on Armed Conflicts and Peace Process: A Global Primer (IPRI)	KAS	Prof D Suba Chandran	Jun'18 – Mar'21	32.49
7.	Frugal Innovation Nurturing Program	INAE	Prof V Bhujanga Rao	Feb'19 – Mar'22	28.00
8.	Study of Weapon System Cyber Security Vulnerabilities	DRDO	Prof M Soundar Rajan	Jul'20 – Jan'22	41.49
9.	Critical Weapon System Technologies, Sensors and Platforms for National Security	DRDO	Prof Srikumar Pullat	Dec'20 – May'22	203.34
School of Humanities					
10.	Research on Kannada Language, Literature and Script, but also Karnataka History, Arts and Culture, Making Use of Its Experience and Expertise in Applying Scientific Tools and Temper and Printing and Publishing of Halagannada Language Studies	Department of Kannada and Culture, Government of Karnataka	Prof Ravi Korisettar	Sept'19 – Mar'21	25.00
11.	Understanding the Past: Intervention through Dissemination to Explore the Idea of Teaching Archaeology	SFL	Dr Smriti Haricharan	Aug'17 – Jun'20	16.00
12.	Casual Structure, Vimarsa and the Pratyabhijna: A Comparative Research Study on Kashmir Saivism and Information Theory	TET	Prof Sangeetha Menon	Mar'18 – Feb'22	161.15



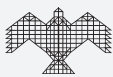
Sl. No.	Title of the Research Project/ Programme	Funding Agency	Name of the Project Investigator	Duration	Sanctioned Amount in Rs. in lakhs
13.	Documentation and Study of Alternate and Indigenous Psychiatric and Psychological Practices of Healing and Wellness (With a Pilot Project of Model Building Focusing on Kerala)	TET	Prof Sangeetha Menon	Mar'18 – Feb'22	125.91
14.	Exploring India's Medieval Coastline using Geospatial Analysis and Historical Records	MoES	Dr MB Rajani	Mar'18 – Feb'22	52.12
15.	Causality Testing in Cognitive Neuroscience with Applications to Measures of Consciousness	DST	Dr Nithin Nagaraj	Jul'18 – Jul'21	20.04
16.	A Study of Consciousness Measures and Synchrony between Brain Cardiovascular Dynamics in Yoga Experience	DST	Dr Nithin Nagaraj	Aug'18 – Aug'21	33.08
17.	Historical Water Systems in the Extended Landscape of Malaprabha River Valley	DST	Dr MB Rajani	Aug'19 – Aug'22	36.17
18.	Cultural Landscape Research: Characterizing and Managing Built Heritage Sites	ISRO	Dr MB Rajani	Oct'19 – Sept'22	45.88
19.	Cultural Heritage, Migration and the Indian Diaspora	ICHR	Dr Smriti Haricharan	Sept'20 – May'21	4.50
20.	Project on Lamp Making, Vilakku: Illuminating the Lamp Making Metal Craft of South India	The Luigi and Laura Dallapiccola Foundation	Prof Sharada Srinivasan	Jun'20 – May'21	7.00
21.	Understanding the Past: Intervention through Dissemination-Phase-II	SFL	Dr Smriti Haricharan	Nov'20 – Oct'22	15.00
22.	NIAS, Bangalore and SAC, Ahmedabad Joint Work Plan on Geo-Archaeology	SAC, ISRO	Dr MB Rajani	Dec'20 – Nov'23	17.88
23.	Archeometallurgical Insights on Ancient Tamil Sites	TCS	Prof Sharada Srinivasan	Mar'21 – Feb'22	30.00
School of Natural Sciences and Engineering					
24.	Interdisciplinary Forays into Human Environment Interactions: An Integrative Research Initiative in Energy, Ecology and Nonlinear Modelling	SERB	Prof R Srikanth Prof Sindhu Radhakrishna and Prof Janaki Balakrishnan	Mar'17 – Mar' 21	223.94
25.	Determinants of Nuclear Risk Perception in India: An Integrated Analysis	DAE	Dr M Sai Baba	Jun'17 – Mar'21	31.97
26.	An Integrated Approach to Development and Environment in the Power Sector	DST	Prof R Srikanth	Jun'18 – Jul'21	150.76
27.	To Understand the Interaction between Components of Earth Systems and Human Systems at Various Spatial and Temporal Scales	MoES	Prof R Srikanth	Jun'18 – May'23	318.00



Sl. No.	Title of the Research Project/ Programme	Funding Agency	Name of the Project Investigator	Duration	Sanctioned Amount in Rs. in lakhs
28.	Impacts of Land Use Changes on Human-Primate Conflict in India	ISRO	Prof Sindhu Radhakrishna	Jun'18 – May'20	22.19
29.	Drug Discovery Research Project on the Selection And Prioritization of Target and Lead Molecules for Neglected Diseases or Diseases of Interest to India such as Tuberculosis and Chikungunya	OSPF	Prof MV Hosur	Jun'18 – May'23	86.25
30.	Advanced Epilepsy Research: A Multidisciplinary Approach	Office of the PSA	Prof MV Hosur	Apr'18 – Mar'21	69.46
31.	Urban Ecologies: Governing Nonhuman Life in Global Cities	ERC	Prof Anindya Sinha	Aug'18 – Jul'23	184.38
32.	Water Hyacinth: A Resource for Energy, Rural Enterprise and Women Empowerment in Kuttanad Region, Kerala	DST	Dr V Jayasree	Jan'19 – Jun'21	26.38
33.	Early Fusion Music: Cross-Cultural Musical Exchanges in Colonial India from the Late 18 th to the Early 20 th Century	DST	Prof Anindya Sinha	Aug'19 – Jul'22	40.84
34.	Complex Dynamics of Simple Nonlinear Mechanical Systems and Their Applications	SERB	Prof Janaki Balakrishnan	May'19 – Apr'22	6.60
35.	Research Project on Affordance Learning: From Object Play to Tool Use?	The Leakey Foundation	Prof Anindya Sinha	Jul'19 – Sept'22	15.61
36.	Project on Cost of Food Choices in India	HSI India	Prof Sindhu Radhakrishna	Oct'19 – Mar'20	13.60
37.	Ecological and Behavioral Adaptations of the Endangered Lion-Tailed Macaque to a Rainforest-Anthropogenic Habitat Matrix in India: Implications for Management	Rufford Foundation	Prof Anindya Sinha	Jan'20 – Jul'21	5.52
38.	Food Object Recognition in Primates: How Do Monkeys Identify Novel Food as Edible Objects	DST	Prof Sindhu Radhakrishna	Mar'20 – Mar'23	24.56
39.	Addressing the Complex Challenges Facing India and Global Society in the Area of Environmental Sciences	IGMT	Prof Vinay Kumar Dadhwal	Sept'20 – Aug'25	300.00
40.	Epilepsy Research – 1) Use Database and Molecular Modeling Techniques, to Modify the Presently used AEDs for Better Performance, and 2) Synthesis and Test on Biological Systems the Designed Derivative Drugs	BBST (Brihad Bhartiya Samaj Trust)	Prof MV Hosur	Oct'20 – Oct'23	44.70
41.	Understanding Elephant-Human Interaction Patterns in a Human-Wildlife Conflict Landscape in Northern Eastern India	Rufford Foundation	Prof Anindya Sinha	Jan'21 – Dec'21	5.86



Sl. No.	Title of the Research Project/ Programme	Funding Agency	Name of the Project Investigator	Duration	Sanctioned Amount in Rs. in lakhs
42.	SERB-National Post-Doctoral Fellowship Programme for Scientific Social Responsibility (SSR) Activities	SERB	Prof Anindya Sinha	Feb'21 – Feb'23	22.37
School of Social Sciences					
43.	Speculative Urbanism: Land, Livelihoods and Finance Capital	NSF	Prof Carol Upadhyya	Jan'17 – Jun'21	60.54
44.	Vocational Skill Policy, Dropout Reduction and Employability among Adolescent Youth: A Study in Odisha and Assam	TSWT	Dr Jeebanlata Salam	Nov'20 – Mar'23	106.88
45.	Inequality and Human Development	TCS	Prof Narendar Pani	Dec'20 – Nov'23	518.50



STAFF

Director

Shailesh Nayak

Professors Emeritus

K Kasturirangan

Roddam Narasimha (*till December 14, 2020*)

VS Ramamurthy

Professors

Janaki Balakrishnan

D Suba Chandran, *Dean (School of Conflict and Security Studies)*

Anitha Kurup

Sangeetha Menon, *Dean (School of Humanities)*

Narendar Pani, *Dean (School of Social Sciences)*

Sindhu Radhakrishna

Anindya Sinha

R Srikanth, *Dean (School of Natural Sciences and Engineering)*

Sharada Srinivasan

Carol Upadhyaya

Principal Scientists

AV Krishnan (*till December 31, 2020*)

Sheela K Ramasesha (*till September 25, 2020*)

Visiting Professors

M Sai Baba, *TV Raman Pai Chair Visiting Professor (till December 9, 2020)*

S Chandrashekar, *JRD Tata Chair Visiting Professor*

PG Diwakar, *ISRO Chair Professor*

Vinay Kumar Dadhwal, *Indira Gandhi Chair Professor*

AV Krishnan

Malavika Kapur

Sudha Mahalingam, *Raja Ramanna Chair Professor*

SS Meenakshisundaram

Srikumar Pullat

PM Soundar Rajan

N Ramani

V Bhujanga Rao, *ISRO Chair Visiting Professor (till September 14, 2020)*

Shailaja D Sharma, *S Radhakrishnan Chair Visiting Professor*

DK Srivastava, *Homi Bhabha Chair Professor*

Lalitha Sundaresan

Jahnvi Phalkey, *Sir Ashutosh Mukherjee Chair Visiting Professor (till October 14, 2020)*

Honorary Visiting Professors

M Sai Baba

Supriya RoyChowdhury

PS Goel

Rajaram Nagappa

S Ranganathan

Sisir Roy

Associate Professors

Anshuman Behera

Tejal Kanitkar

M Mayilvaganan

Srikumar M Menon

Nithin Nagaraj

MB Rajani

Shivali Tukdeo

Assistant Professors

Debosree Banerjee

VV Binoy

Chetan Choithani

Shalini Dixit

Smriti Haricharan

Anant Kamath

Rudrodip Majumdar

Tarun Menon

Amit Mukherjee

Prakash Panneerselvam

Jeebanlata Salam

Harini Santhanam

Aardra Surendran (*till January 21, 2021*)

Post-Doctoral Associates

Shaurabh Anand (*till March 29, 2021*)

Chanchal Chauhan (*till March 19, 2021*)

Ipshita Chowdhury (*till August 13, 2020*)

Sapam Tuleshwari Devi

Harikrishna M (*till November 30, 2020*)

Sudharsana V Iyengar (*till March 29, 2021*)

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Asmita Mohanty

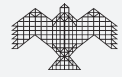
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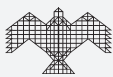
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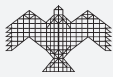
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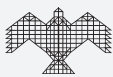
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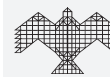
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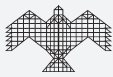
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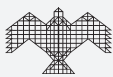
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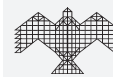
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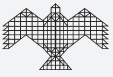
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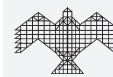
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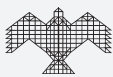
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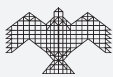
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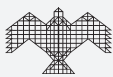


LIST OF COMMITTEES

Name of the Committee	Chairperson	Members
Faculty Committee	Director, NIAS	Prof Janaki Balakrishnan Prof D Suba Chandran Prof Anitha Kurup Prof Narendar Pani Prof Sindhu Radhakrishna Prof Anindya Sinha Prof Sharada Srinivasan Prof R Srikanth Prof Carol Upadhya Prof Srikumar Pullat Prof Sangeetha Menon (Convener)
Appointments Committee	Director, NIAS	Prof Narendar Pani Prof Anindya Sinha Prof Sangeetha Menon Prof D Suba Chandran Prof R Srikanth Respective Programme Head Two Subject Experts
Faculty Renewal/Promotion Committee	Director, NIAS	Prof Narendar Pani Prof Anindya Sinha Prof Sangeetha Menon Prof R Srikanth Prof D Suba Chandran Two Subject Experts
Committee to Oversee PhD Programme	Prof Anindya Sinha (Academic Head)	Dr MB Rajani Dr Tejal Kanitkar Dr Anshuman Behera Dr Shalini Dixit Dr Anant Kamath Ms JN Sandhya (Secretary)
Research Ethics Committee	Prof Carol Upadhya	Dr Shivali Tukdeo Dr Prakash Panneerselvam Dr Jeebanlata Salam Dr Tarun Menon
Institutional Academic Integrity Panel	Prof Carol Upadhya	Prof Anindya Sinha Library and Information Officer, NIAS Prof TA Abinandanan (External Member)
Library and Publications Committee	Prof Janaki Balakrishnan	Dr Srikumar Menon Dr Anshuman Behera Dr Rudrodip Majumdar Dr Chetan Choithani Library and Information Officer (Convener)



Name of the Committee	Chairperson	Members
Grievance Redressal Committee	Prof Anitha Kurup	Dr Nithin Nagaraj Dr Amit Mukherjee Dr Harini Santhanam Dr Debosree Banerjee Head-Administration, NIAS (Member Secretary)
Committee Against Sexual Harassment at the Workplace	Prof Sindhu Radhakrishna	Dr Anshuman Behera Ms S Lalitha Mr V Srinivasa Ms Madhu Bhushan (External Member)
Committee to Oversee Website, Outreach and e-Newsletters	Prof D Suba Chandran	Prof N Ramani Dr VV Binoy Dr Prakash Panneerselvam Dr Smriti Haricharan Library and Information Officer (Convener)



DETAILS OF MEMORANDUM OF UNDERSTANDING (MOU)

Sl. No.	MoU with	Areas of Cooperation
1.	University of Exeter, Exeter	Development of education and research activities, which may include: <ul style="list-style-type: none">• Research collaboration with the University of Exeter's South Asia Research Centre• Collaborative split-site PhD supervision• PhD student mobility• Faculty exchange
2.	Manipal University	NIAS PhD Programme and collaborative research to address national challenges and priorities in areas including, but not limited to energy, healthcare, ecology, conservation of natural resources and education.
3.	Defence Research and Development Organisation	To support and strengthen collaboration and cooperation in identified topics pertaining to national security.
4.	Sahapedia, New Delhi	Collaboration through various programmes in arts and humanities disciplines.
5.	Acharya Institute of Management Studies	Collaborative Research.
6.	The Institute of Trans-Disciplinary Health Sciences and Technology	PhD Programme.
7.	Indian Heritage Cities Network (IHCN)	To establish a framework of co-operation to share knowledge and expertise towards strengthening the resource and projects taken up on mutual benefit.
8.	Kyoto University, Inuyama, Japan	To exchange scientific information in the fields of primatology, wildlife biology, and conservation. Both Institutes will promote the development of joint research projects in the fields of primatology, wildlife biology, and conservation.
9.	Indian Institute of Science	To establish a framework that would guide both the Institutions in establishing a cooperative working relationship for planning and accomplishing mutually beneficial research projects, teaching programmes and other activities, as may be periodically discussed and mutually agreed upon.
10.	Indian Institute of Science	To establish a framework that would guide the students of both parties to credit or audit courses conducted by the other institution.
11.	National Centre for Biological Sciences	To promote joint research and development activities of mutual interest in accordance with their respective needs and objectives, and shall by joint agreement, determine the areas and subject of such collaboration, on the basis of understanding set out in the MoU.
12.	Open Source Pharma Foundation	Collaborative programme relating to open source approaches to the development of new affordable therapies and other pharmaceutical products in diseases of interest to India.



Sl. No.	MoU with	Areas of Cooperation
13.	National Institute of Science Technology and Development Studies (NISTADS)	To create value-added policy analysis and policy advocacy for applications of science and technology for sustainable and holistic development at national and global scale.
14.	NITI Aayog, Government of India	Part of SAMAVESH initiative and work under the S&T cluster group.
15.	Institute of Rural Management Anand, Gujarat	Academic collaboration between the Faculty and Staff of both Institutions.
16.	University of Mysore, Mysore	Recognition as Research Centre for the purpose of PhD Programme.
17.	Institute of Frontier Science and Application (IFSA)	To create value-added policy advocacy and exploratory science for applications of science and technology for sustainable and holistic development at national and global scale.
18.	University of Liverpool	Undertake collaborative, interdisciplinary research activities – Heritage, conflict resolution and other fields of mutual interest.
19.	DIAT, Pune	Collaborative research programmes, joint events and activities, collaborative PhD Programme, exchange of research and faculty and collaborative projects.
20.	Geospatial Media and Communications	Collaborate in conducting research; research publications; joint proposals for research funding; co-hosting of conferences etc.
21.	Karnataka Science & Technology Academy	Collaborate and partner to promote science, technology and innovation for societal welfare.
22.	Indian Council of World Affairs	To organise studies and webinars on agreed topics, mainly on the Indian neighborhood.
23.	Digital Discourse Foundation, Bangalore	To create since-based communication strategy applications of science and technology for sustainable and holistic development at national and global scale.
24.	Indian Institute of Remote Sensing	To encourage academic collaboration between the faculty, researchers and students.
25.	Public Health Foundation, New Delhi	Encourage academic collaboration between the faculty, researchers, and students in the area of Energy and Environment, Air Pollution and Health, and any other topic or activity of mutual interest.
26.	Bangalore Little Theatre	To make joint effort towards agreed goals with shared ideals, a complementary deployment of resources, and some synergies that would be achieved. To collaborate on projects and events of common interest.
27.	Florida International University	To explore the possibility of developing the highest quality programmes to advance the needs of NIAS and FIU.
28.	Southern Regional Load Despatch Centre (SRLDC), POSOCO	For knowledge sharing and capacity building in areas of mutual interest.



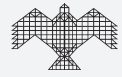
REPORT ON COUNCIL OF MANAGEMENT

The joint 51st Meeting of the Council of Management of the National Institute of Advanced Studies (NIAS) – 30th Annual General Body Meeting of the Society of NIAS, and the 52nd Meeting of the Council of Management were held online and partly in person in the E-Class Room of the Institute in Bengaluru on May 26 and November 4, 2020 respectively.

The members of the Council, who attended these meetings, included Mr S Ramadorai, Nominee of the Tata Trusts and Chairman of the Council; Dr Shailesh Nayak, Director, NIAS; Prof S Siraj Hasan, Dr AS Kiran Kumar, Mr B Muthuraman, Prof G Padmanaban, Prof Indira Rajaraman, Ms Swati Ramanathan, Ambassador Nirupama Rao, all Nominees of the Council; Prof Padma Sarangapani, Nominee of the Tata Trusts; Prof Govindan Rangarajan, Director, Indian Institute of Science, Bengaluru; and Mr P Srinivasa Aithal, Head, Administration, NIAS as Special Invitee.

The annual academic report, financial status of the Institute, audited financial statements and other administrative reports of the Institute were presented by Dr Nayak at both these meetings while the heads of various academic programmes, including the doctoral programme at the Institute, made extensive presentations on the various institutional activities to the Council members. The meetings concluded after widespread and in-depth discussions on both, the progress that the Institute has made in the recent past and the trajectories that could be followed in the years to come.

Prof Anindya Sinha
Secretary, Council of Management of NIAS



REPORT ON ACADEMIC COUNCIL

The NIAS Academic Council held its 3rd meeting on July 21, 2020. The Academic Council is chaired by the Director of NIAS and consists of the following external experts in addition to NIAS Programme Heads and select faculty members.

- Prof Ravi B Grover, DAE Homi Bhabha Chair, Mumbai
- Amb PS Raghavan, Chairman, National Security Advisory Board, New Delhi
- Prof Mewa Singh, University of Mysore, Mysuru.
- Prof N Jayaram, Former Director, Institute for Social and Economic Change, Bengaluru
- Prof BN Gangadhar, Former Director, NIMHANS, Bengaluru

This meeting was held online due to the impact of the COVID 19 pandemic from March 2020 onwards. After the faculty members of the Council made their presentations regarding their Programmes, the Director Dr Shailesh Nayak explained the changes in the functioning of NIAS, including the conduct of the NIAS PhD entrance and interviews through the online mode. The members of the Academic Council appreciated the proactive measures taken by NIAS to continue its research and academic activities through the online mode and also advised that faculty and students can sharpen their focus on research publications as conducting field work may be risky during an active pandemic.

Prof R Srikanth
Convener, Academic Council of NIAS



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